

DISTRIBUTION MAGAZINE

A Chilton ① Publication

MARCH, 1956

MATERIALS HANDLING, TRANSPORTATION, WAREHOUSING

In This Issue

UNITIZED HANDLING

Economy in load handling, particularly through palletization, is being encouraged to the greatest possible extent compatible with available facilities by the British Railways and Road Services. Picture at right shows interior of railway goods shed, with power-operated conveyors and electric elevating platform trucks being used in loading and unloading cars. For complete details, see Page 28.



Other Features

- A Look at the New Highway Program
- ICC Recommends 39 Changes in Transport Law

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POWER of a giant

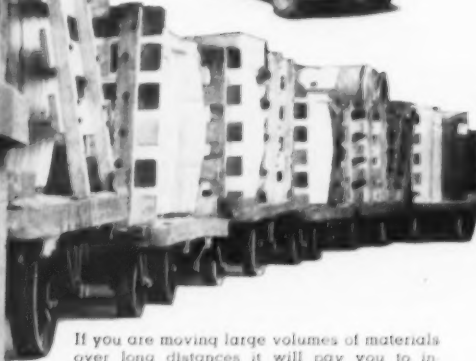
... but a PYGMY in size!

MERCURY "BANTY"

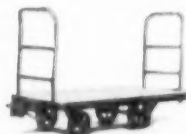
Model 460, 4-Wheel Gas Tractor

With a turning radius of only 62½" and overall dimensions of 78¾"x41"x56½", the MERCURY "Banty" is the most versatile . . . maneuverable . . . and dependable tractor made. Typical of the important economies possible with this unusual machine is the experience of one large company that moves over 4,000,000 lbs. per day with a "Banty" and train of trailers at a cost of less than 6c per ton.

Model 460 "Banty" is available in two models for regular or LPG operation—Standard 2400 lbs. or Heavy Duty 3000 lbs. D. B.P. Request Bulletins T-101 and T-102.



If you are moving large volumes of materials over long distances it will pay you to investigate the handling economies of the MERCURY "Banty" and the "Trackless Train" system.



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Burden carrier of the "Trackless Train"

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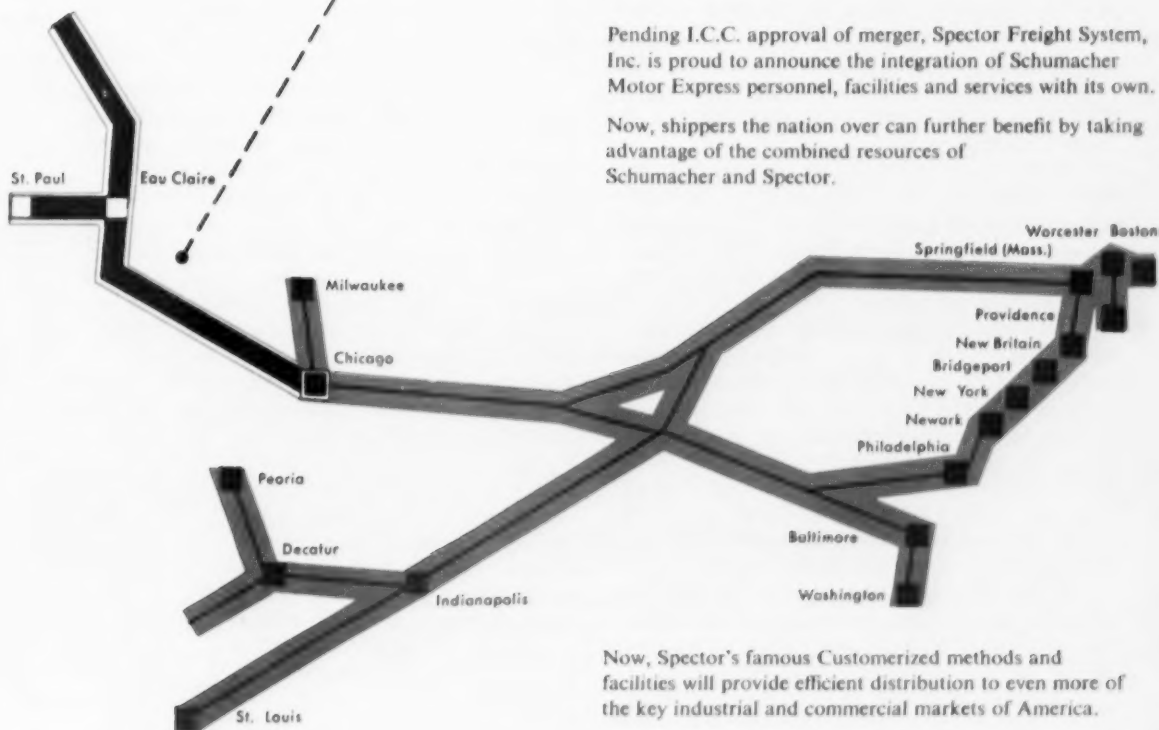
management

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than 10,000 points in 48 states

Pending I.C.C. approval of merger, Spector Freight System, Inc. is proud to announce the integration of Schumacher Motor Express personnel, facilities and services with its own.

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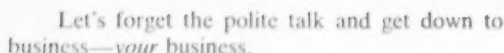
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railroaded!



This Policy is already flexible enough for any needed changes — it's been altered 112 times since 1944 — but what's being proposed now is murder for shippers.

Now, let's get hard-headed about this. As a business man, you know a carrier can't operate very long at a rate that returns only "out-of-pocket" expenses. So if a railroad offers a "loss-leader" rate on one commodity or in one area, *somebody* has to foot the bill with rates that shoot to the maximum. And these higher rates would need no approval from anyone: rates within the broad legal limits could be changed within any 30-day period at the whim of the carrier.

We firmly believe in free enterprise for private

Only confusion could come from the proposed revolution in Transportation Policy — confusion in the form of unequal rates, uncertainty of your long-range planning, and if competition is "squeezed out," greatly increased freight costs in the long run.

Only the railroads and their friends have been officially consulted regarding the proposed changes. No other form of transportation or any shipper groups were consulted or advised before the Weeks Report was released to the public. If the proposed changes were intended for public good, why were not the public and other forms of transportation given an opportunity to be heard?

If you don't like the idea of being railroaded into a now-it-is-now-it-ain't rate structure, better let your Senator or Congressman know in a hurry! Just tell him you're against the Weeks Report—that you want to keep today's freight rate protection with stabilized rates set and guaranteed by your ICC.



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Executive, Editorial & Advertising
Offices: Chestnut & 56th Sts.,
Philadelphia 39, Pa. Sherwood 8-2000



Accepted as controlled circulation
publication at Philadelphia, Pa.
Copyright 1956, by Chilton Co. (Inc.)
Published monthly. Subscription rates:
U. S. \$5 per year; Canada, \$5.50 per
year; Foreign Countries, \$6 per year.
Single Copies 50¢ each, except Febru-
ary Directory Number—\$4 per copy.

MARCH, 1956

DISTRIBUTION DAGE

ESTABLISHED 1901

Vol. 55, No. 3

March, 1956

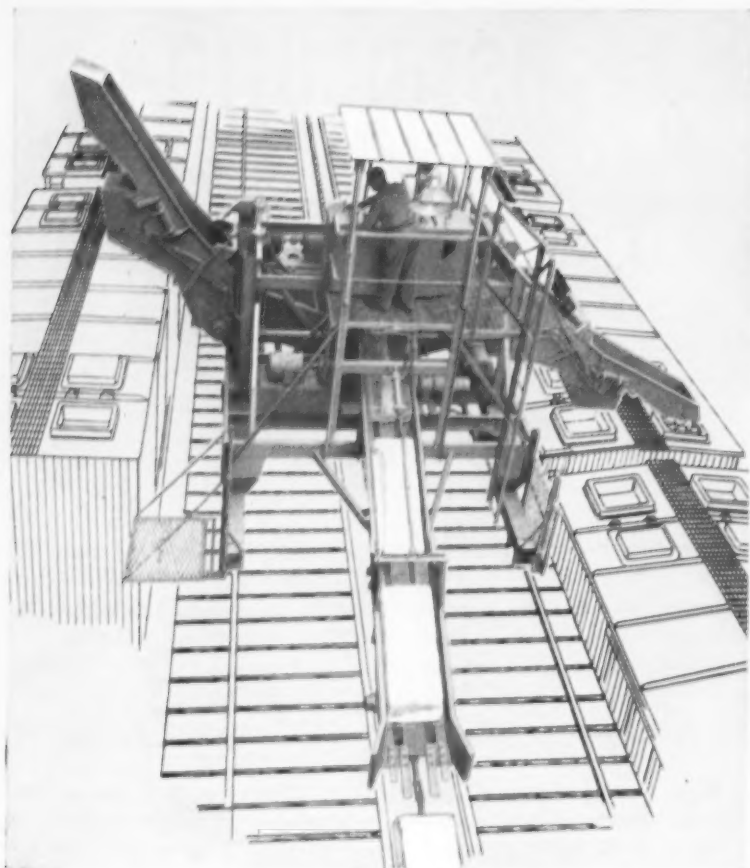
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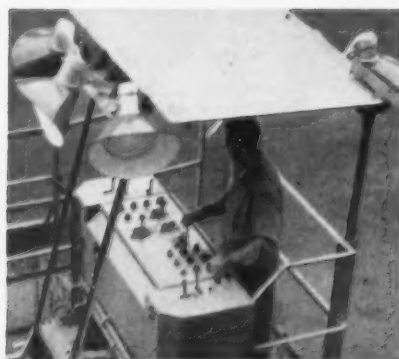
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One man controls all operations of Model 55 Car Icer. These include machine travel (up to 300 feet per minute in either direction), start and stop of dock conveyor, raising and lowering of pick-up conveyor and discharge chutes, ice sizing and operation of flop gate to feed ice into desired roof hatch. Machine also features hydraulic track brakes which assure smooth, positive positioning.



Elevated platform allows operator full visibility in all directions. Controls are within easy reach, functionally grouped to simplify operation. Lights permit top-speed icing around the clock.



Write for Folder 2643 on the New Link-Belt dock-type car icer, adaptable to typical existing docks from 12 to 18 feet in width and of any length—and to cars of all heights, hatch covers of all types.

Faster icing of refrigerator cars

New Link-Belt car icer mechanizes existing docks...
fills bunkers with coarse, crushed or chunk ice automatically

THE need for getting perishables to market in farm-fresh condition requires high-speed icing—not only at point of shipment but also at re-icing stations in transit. That's why the new Link-Belt Model 55 dock-type car icer holds economic significance, not only for railroads, but also for every grower, shipper and purchaser of produce.

This flexible machine receives 300- or 400-pound cakes of ice "on the flat" from the dock conveyor... crushes up to 40 cakes per minute and delivers to roof hatches of car bunkers. There's no manual handling. Costs come down—trains are on the way faster.

Other time and money saving features are reversible cross conveyor and dual discharge chutes which permit high-speed icing from either side of the dock.

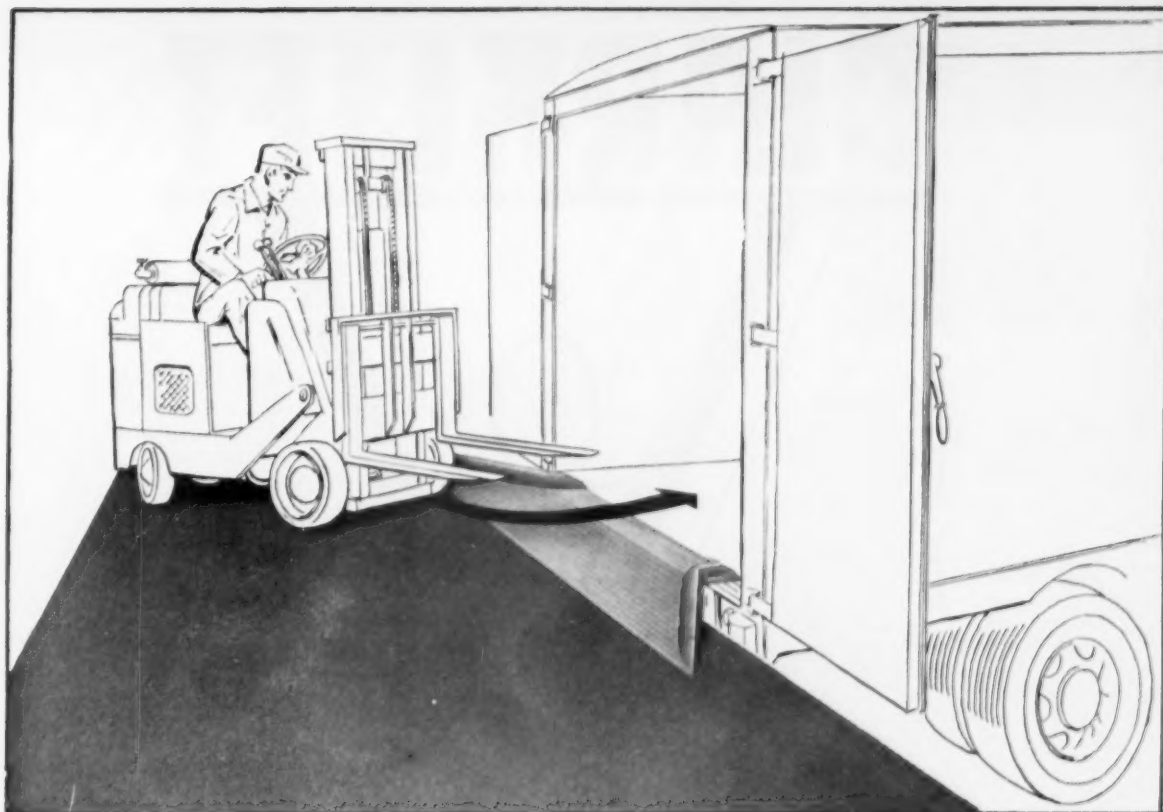
If your business is concerned with transportation of perishable foods, call your nearest Link-Belt office. Or write LINK-BELT COMPANY, Dept. DA, Prudential Plaza, Chicago 1, Ill.

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DISTRIBUTION AGE



Flared Magcoa Dockboard solves sharp-turn problem on narrow truck dock; permits safe, easy turn which was previously impossible.

Many congested-truck-dock problems solved by flared Magcoa Magnesium Dockboards

Lift truck turning problems created by narrow docks are solved quickly by Magcoa flared Dockboards. Even big, wide truck docks sometimes get clogged with loads and equipment—it happens in the best of companies! Here, too, a Magcoa flared Dockboard is usually the best solution.

Flared construction eliminates the need for sharp right-angle turns which are always awkward and dangerous—and are sometimes completely impossible. Magcoa flared construction permits the operator to do most of the turning *while on the Dockboard*. It's like having a wider dock to turn on. This means quicker, safer truck loading and unloading.

The exclusive Magcoa angle stop under the Dockboard holds it positively in place during loading, yet needs less than an inch of space between truck and dock. You back up to the dock only once . . . set your brakes . . . position your Magcoa Dockboard . . . and start loading or unloading!

Every Magcoa Dockboard is constructed of magnesium, the lightest

of structural metals. Every Magcoa Dockboard has the patented hand holds, quarter-round safety curbs and other safety features which have made Magcoa Dockboards famous.

Other Complications? If your truck dock is too high or too low, as well as being too narrow, your Magcoa Representative can furnish a Dockboard which solves both problems at once.

Rail Dock Turning Problems? On narrow, congested rail docks, too, flared construction is one of several Magcoa features which can help you get the loading and unloading job done with maximum speed and safety. Problems such as low equipment under-clearance and narrow rail car door openings can be solved at the same time.

What's Your Loading Problem? A narrow, congested dock? A low dock? Inefficient loading from ground level? Spilling or damaging loads? Planning the dock for a new plant or warehouse? Modernizing an old dock? Switching to higher-capacity lift trucks or pallet trucks?

Whatever the loading problem, the odds are 1000 to 1 that your local Magcoa Representative has encountered it and solved it before.

A Suggestion—Send for our free new bulletin, "What to do about Difficult Docks." It's loaded with practical, helpful ideas.

MAGNESIUM COMPANY OF AMERICA

MATERIALS HANDLING DIV.
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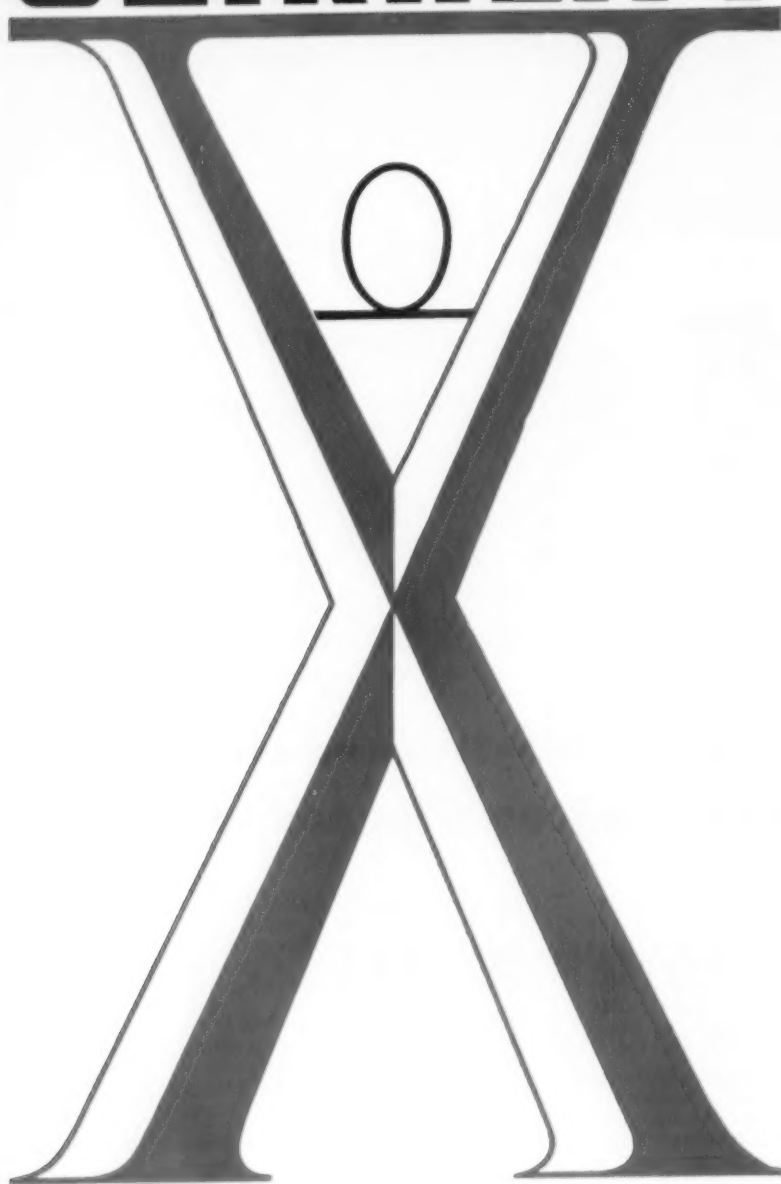
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to Clark's complete line. *Clarklift!* A completely new fork truck that will surpass any present standards of performance. Watch for it at the Materials Handling Institute Exposition, June 5 through 8, Cleveland, Ohio.

Industrial Truck Division, Clark Equipment Company, Battle Creek 11, Mich.

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On the Line—



Says This "Pore Lil' Ol' TM:"

Transportation activities are the dominating news topic no matter where one goes these days. If someone isn't tearing into the Cabinet Committee's Report, he's blasting the highway bills, the ICC, or the recent freight tariff increases.

This fellow, and his counterpart all over the country, is giving his views to any and all who will listen at traffic club meetings, service club luncheons, association meetings, high school and college graduations—even at the Ladies' Aid Society meeting at the church around the corner.

The hub of these activities is, of course, the nation's capitol. There, one will find "consultants" from every corner of the country representing the various forms of transportation and seeking preference in law for them. The indirect lobbyists—carriers from back home bent on showing their congressional representatives "a few facts I jotted down on the back of this envelope"—are tripping over each other. Hotel bookings give the impression that there's a six-month carriers' convention in town.

The congressional mail bag is loaded with resolutions, petitions and form letters; including No. 753—"I'm a widow, and the interest from my securities is my only means of support..."

As all of this is going on, we know of a "pore lil' ol' industrial traffic manager" poring over reams of statistics and technical data trying to figure his way around recent freight rate increases. We dropped in on him just as he concluded that the only answer to his problem was private carriage.

He explained that he had been "nursing that lil' ol' notion since the Cabinet Committee Report gave supreme sanction to the big carriers to beat the brains out of the little ones competitively.

"On top of that," he continued with rising excitement, "the rails got the ICC scared of losing their jobs so they hand them a fast rate increase on top of making the temporary one permanent. Then look at the truckers—how they have been sneaking in higher tariffs. If they're going to be soaked with high taxes for the new roads, you can be sure that they're going to stick out their hands for me, and all other shippers, to foot that bill.

"Just where is it all going to end?" he asked, jabbing us on the chest with a fast-moving and hard-hitting index finger. "I'll tell you," he continued as his phone started to ring.

"This whole thing will be the end of mass freight transportation by common carrier," he continued disregarding the insistent bell, "—just like passenger transportation. We industrial traffic men are tired absorbing their propaganda costs and lawsuit fees—with handling charges and a profit yet."

His secretary interrupted. The call was from out of town. It was urgent. We excused ourselves.

From that day to this, this man's fervent remarks have been ringing in our ears. The point that bothered us is that that "pore lil' ol' TM" paid a \$2.5 million dollar freight bill during 1955. That's quite a chunk of business to take out of common carriage!

Al. Greene
EDITOR

Yakkety Yak

Another traffic manager was hit for a wage increase by the yard man.

"Every year," said the TM, "you have the same reason: Another child. You'll just have to do something about this because you are much overpaid on the job you're holding. I just won't be able to get you any more money."

A few days later the TM found

this note on his desk: "Dear Boss: Problem will be corrected as reason for family increases has been discovered. Mike."

UPKEEP: High cost of upkeep is the real problem said the freight agent.

"See these shoes," he said, "they cost \$65.50—\$12 when I bought them 18 months ago, and \$53.50 for shines.

PROGRESS? Well, time marches

on and all we can report on this third anniversary of the Truck-Rail lawsuit is that the Rails have filed a \$120 million countersuit.

PREDICTION: The briefs will be dusted off so many times this year that all first pages will have to be retyped.

OMEGA: We like the way Clyde Phelps sums up the transportation situation: "Speak well of your enemies—you made them."



This is Cinerama?

► Yes, this *IS* Cinerama . . . delicate cinerama theatre equipment on the move from Long Island, New York to Damascus, Syria, via Mayflower and the United States Air Force, for an International Exposition by the U. S. State Department.

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Your precious household goods, or the goods of your personnel will get the same expert handling, the same gentle care. For the safe, easy way to move long distance anytime, anywhere, move by Aero Mayflower. Call your local Mayflower agent.

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LETTERS

TO THE EDITOR

Storage in Transit

To The Editor:

Are goods stored in transit subject to personal property taxes of the community in which they are stored if it is the intention of the shipper to move them on to another destination without even a part of them being distributed in that community?

Clifford V. Eslick
President

Cadwell Storage & Moving Co., Inc.
Mason City, Ia.

If goods are stopped in transit, by necessity, as for resorting to prevent damage or spoiling, or due to a flood, fire, lack of transportation facilities, or other unusual conditions, such goods are not taxable by the state or community in which they are stopped.

On the other hand, if for mere convenience of the shipper, and not for the purpose of protecting the goods, such goods are stopped in transit then, under these circumstances, the same are taxable.—Leo T. Parker, DA Legal Consultant.

Pallet Problems

To The Editor:

Recently we had purchased 700 pallets, or a carload, from "X" company. These were to be shipped on a carload basis. Due to impossible weather conditions, they advised us that the only way this could be accomplished was by truck delivery.

The trucking company did not load but 200 pallets on the truck, which was not to full visible capacity of the vehicle. Another hundred pallets could have been put on the truck, if loaded properly.

We were billed by the trucking company at the truckload rate (23,000#), but only received 17,000# of pallets. We noted this on the delivery receipt.

Please advise us as to what our legal obligation is.

D. K. Wilson

Fuchs Transfer Co., Inc.
Baltimore, Md.

First, if you agreed to accept delivery by truck from the "X" company, then the latter company is relieved from any payment to compensate you for the difference between the carload and trucking freight rate.

Second, if the trucking company loaded only 17,000 lb when it could have under ordinary circumstances, loaded 23,000 lb, and through its fault only 17,000 lb were loaded, it is my opinion that the trucking company can collect from you only on the basis of 17,000 lb.—Leo T. Parker, DA Legal Consultant.

STORAGE is simple...
it's the **INS** and **OUTS**
that count



AUTOMATION in Distribution and Handling Cuts Costs

for you at NORTH PIER TERMINAL

YOU GET SEASONED EXPERIENCE and fresh new techniques in distribution and handling. You get dependability! This saves you time, money and anxiety at North Pier Terminal.

Do you have thirty or 300 shipments? Do you have one or 1,000 cartons or drums for local or nation-wide shipping? Want CL, LCL, TL, or LTL? The movement of your goods can now be faster, more accurate, more economical.

Automation is our secret — automation and detailed planning by shipping specialists who have developed new highs in scheduling and processing INS and OUTS — from paper work with business machines to shipping docks with mechanized equipment to carriers.

North Pier Terminal can put new economies into your warehousing. Find out! North Pier Terminal can give you a new,



simplified approach to your distribution program. Find out! We can make it possible for *you* to make more money. Find out!

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1. **NORTH SIDE**, located on the C. & N.W. and C.M. St. P. & P. Railroads, with reciprocal shipping; 200,000 sq. ft. of space; 25-truck, 12 freight car loading area; covered platforms; sprinklered; heated; heavy floor load.

2. **SOUTH SIDE**, on mainline of the I.C.R.R., connecting with all southwest, west, northwest and southern rails; 100,000 sq. ft. unlimited floor load space in a ONE STORY BUILDING; trucks and railroad cars loaded and unloaded inside.

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Ask for complete information on how your INS and OUTS can be handled at great savings to you in time and money—and how your storage can be made more convenient. Write or wire, or phone collect.



W. W. Huggett
President

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Wet-sleeve construction adds to short-stroke efficiency and extends new engine performance—original factory tolerances are restored exactly even after years of rugged service and several overhauls. Overhaul downtime and cost are cut in half.

REO BUILDS ONLY COMPLETE LINE OF SHORT-STROKE, WET-SLEEVE ENGINES

for short-stroke and wet-sleeve

Reo builds the only complete line of truck engines — V-8's (195-220 h.p.) and sixes (107-160 h.p.), gas or LPG—with both short-stroke and wet-sleeves throughout. All are backed by 100,000 mile or 1 year warranty.

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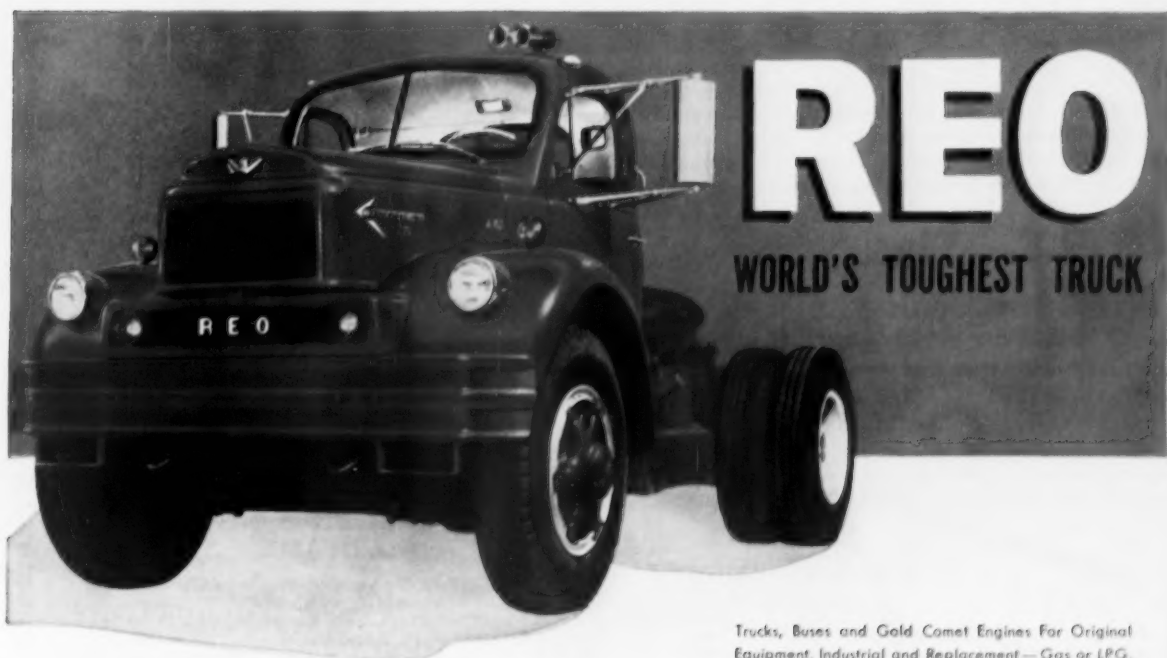
Ask your Reo representative about the advantages of Gold Comet power. You can get it in a rugged Reo truck or for replacement in other truck makes. Call your Factory Branch or Distributor today.

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MARCH, 1956

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11

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***for moving household goods—office
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Most moves *begin* right—but it's the way they *finish* that determines how satisfactory they are to all concerned.

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Whether you're shipping the household goods of transferred personnel, office furniture and equipment, or trade show displays, there's a Greyvan representative at *destination* to see that shipping instructions are followed to the letter . . . to handle any special service problems which may occur . . . to make an on-the-spot settlement of almost any claim that may arise—in short, to assure the type of prompt and pleasant completion of the move that makes Greyvan service preferred by transferred personnel and traffic managers alike.

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Chuting the NEWS

Coming Events

- Mar. 28-29 — Connecticut Materials Handling Exposition, Arena, New Haven, Conn.
- Apr. 3 — The Material Handling Institute, Spring Meeting, Edgewater Beach Hotel, Chicago, Ill.
- Apr. 7-9 — Associated Warehouses, Inc., 22nd Annual Meeting, Ambassador Hotel, Los Angeles, Calif.
- Apr. 9-12 — 25th National Packaging Exposition, American Management Assn., Convention Hall, Atlantic City, N. J.
- Apr. 9-13 — American Warehousemen's Assn., 65th Annual Meeting, Statler Hotel, Los Angeles, Calif.
- Apr. 17-20 — General Claims Div., Assn. of American Railroads, Houston, Tex.
- Apr. 17-20 — ATA Common Carrier Conference—Irregular Route, Balmoral Hotel, Miami Beach, Fla.
- Apr. 22-26 — National Tank Truck Carriers, Washington, D. C.
- Apr. 24-26 — Freight Station Section, Assn. American Railroads, Cleveland, Ohio
- Apr. 29-May 3 — Operations Council American Trucking Assn., Annual Meeting, Sheraton-Cadillac Hotel, Detroit, Mich.
- May 2-5 — Local Cartage National Conference, American Trucking Assns., New Orleans, La.
- May 4-5 — Industrial Packaging Conference, American Material Handling Society, University of Buffalo, Buffalo, N. Y.
- May 9-11 — Western Material Handling Conference & Equipment Show, Livestock Exhibit Bldg., Los Angeles, Calif.
- May 13-19 — Regular Common Carrier Conference, American Trucking Assns., Edgewater-Gulf Hotel, Edgewater Park, Miss.
- June 5-8 — The Material Handling Institute's Exposition of 1956, Cleveland Public Auditorium, Cleveland, Ohio.
- June 11-13 — Packaging Conference, American Management Assn., Hotel Statler, New York, N. Y.
- June 11-15 — Seventh National Plastics Exposition, New Coliseum, New York, N. Y.
- June 17-30 — Third Annual Materials Handling Training Conference, Lake Placid, N. Y.
- June 20-21 — Executive Committee, ATA, Washington, D. C.
- June 25-27 — Packaging Clinic & Exhibit, National Retail Dry Goods Assn., Hotel Statler, New York, N. Y.

American Warehousemen's Assn. Meets April 9-13 in Los Angeles; Benson, Caputo Highlight Program

Plans are developing rapidly in preparation for the 65th Annual Convention of the American Warehousemen's Association, to be held at the Statler Hotel, Los Angeles, Calif., April 9-13, 1956.

Meeting jointly will be AWA's two divisions—the National Association of Refrigerated Warehouses and the Merchandise Division.

It is anticipated that the program for the opening general session will include an address by Ezra Taft Benson, Secretary of Agriculture. Another feature will be a visual presentation of the Department of Defense "Single Manager Supply System," by Vincent F. Caputo, staff director, Storage and Distribution Div., Department of Defense.

In addition to officer and committee reports, the separate NARW and Merchandise Div. sessions will include seminars, panel discussions, and nationally known speakers on all phases of ware-

house operations—from office mechanization to materials handling, and from rates and tariffs to construction.

I. S. Culver, San Francisco, general president of the AWA, has appointed Malcolm A. McConnell, Jr., Packers Terminal & Warehouse Corp., Chicago, as chairman of a Special Train Committee that will handle details regarding an all-streamlined, modern AWA Special that will leave Chicago for Los Angeles on April 4. Special arrangements for children are available and will be handled on an individual basis when making applications for accommodations.

AWA also has planned a post-convention tour to Hawaii after the close of the Annual Convention schedule. This all-air-trip complete—including round-trip transportation from Los Angeles, meals, and hotel accommodations on the Island—will come to something less than \$500.

Classification Group Elects

H. E. Howell, of Associated Transport, Inc., New York, N. Y., was elected chairman of the National Classification Committee at the first meeting of the group in Washington last month. A. F. Mathews, of Consolidated Freight, Saginaw, Mich., was elected first vice chairman, and W. F. Stiegele, of Roadway Express, Akron, O., second vice chairman. Fred G. Freund, of Washington, was named secretary. The National Classification Committee of 100 members was elected Jan. 6 to serve until July 1.

Pallet Manufacturers Meet

The Ninth Semi-Annual Meeting of the National Wooden Pallet Manufacturers Assn. at Daytona Beach, Fla., last month, attracted a record attendance of 93. Members present heard reports that 1955 was the greatest year in the history of the pallet industry, with a sales volume in excess of \$100,000,000, and were told that their industry has an excellent outlook for at least the next 10 years.

An expanded trade promotion program was approved for 1956, and a 50 per cent higher budget.

(Please Turn Page)

Chuting the News . . .

(Continued from Preceding Page)

AMA Plans Silver Anniversary Packaging Exposition; More Than 30,000 Expected to Attend April 9-12 Show

Some 30,000 executives from more than 9,000 different companies are expected to view the American Management Association's Silver Anniversary Packaging Exposition at Convention Hall, Atlantic City, N. J., April 9-12. Attendance of well over 1,000 specialists in packaging, shipping, traffic management, materials handling, and merchandising is forecast for the accompanying Packaging Conference.

The three-acre exposition will provide a panorama of progress in packaging, reflecting the field's growth over the past quarter century to a better than \$10-billion-a-year industry and the corresponding growth of the show. Speakers at the conference, reporting on the newest developments in packaging machinery, materials, and methods, will not only stress the technical

progress already made, but will look ahead to the advances that are promised by the future.

Close to 400 exhibitors will take up some 130,000 sq ft of Convention Hall to display the latest in equipment, materials, and services for the packaging, packing, and shipping of industrial and consumer goods.

The Conference program will explore the packaging field on a broad front, emphasizing throughout the growing importance and complexity of packaging and the resulting need for trained and highly qualified management personnel in this field.

Specific topics to be discussed include organization structure for packaging, coordination with other functions in the company, characteristics and applications of packaging materials, trends in packaging machinery, etc.

News Briefs

A Federal court in St. Louis, Mo., on March 2 ended bankruptcy proceedings of the Missouri Pacific Railroad, making MoPac the last major line in the country to be handed back to private owners.

Sixteen Eastern railroads have asked the Federal District Court, in Philadelphia, Pa., for permission to file a \$120 million treble-damage counter motion against the truckers who filed their own \$250 million lawsuit three years ago.

The North Atlantic Mediterranean Freight Conference and the Atlantic and Gulf Red Sea and Gulf of Aden Freight Conference have announced increases in freight rates averaging 10 per cent to become effective May 15.

The ICC has announced that it will close the office of the Bureau of Water Carriers and Freight Forwarders in St. Louis effective March 30. Activities will be transferred to the Chicago and New Orleans offices.

A nation-wide referendum voted by the U. S. Chamber of Commerce suggests that the Federal government should bear most of the cost of ex-

panding and modernizing the Interstate Highway System.

The Connecticut Valley Materials Handling Society will conduct its Second Materials Handling Exposition and Fork Truck Rodeo in the New Haven Arena March 28-29.

Fruehauf Trailer Co. has acquired Strick Co. and its subsidiary, Strick Plastics Corp., giving Fruehauf a sizable interest in the plastic trailer field. Strick will operate as an autonomous unit, including its present sales organization, according to the announcement.

The Sixth Annual Materials Handling Forum, co-sponsored by the Stevens Institute of Technology and the New Jersey AMHS Chapter will be conducted March 14 on the Stevens campus, Hoboken, N. J.

The ICC has announced the appointment of Lee R. Nowell as director of the Bureau of Water Carriers and Freight Forwarders.

The Ninth Pan American Railway Congress, scheduled for April 3-15, in Buenos Aires, has been postponed until August, 1957.

ARBA Convention



Principal hosts and guests at the 1956 convention of the American Road Builders' Assn. in Miami, Fla., were (l to r) Paul B. Reinhold, past president of ARBA and president of the Atlas Equipment Co. in Pittsburgh; John L. Cohill, assistant to the president of The Firestone Tire & Rubber Co.; John M. Robertson, president of the ARBA, and Carl R. Shaffer, president of the Xylos Div. of the Firestone Co.

Dunleavy ALTPEM President

F. J. Dunleavy, Yale & Towne Mfg. Co., was elected president of the Assn. of Lift Truck and Portable Elevator Manufacturers at a recent meeting in New York, N.Y. H. S. Germond, III, Revolver Co., was elected vice president, and R. Kennedy Hanson, elected secretary-treasurer.

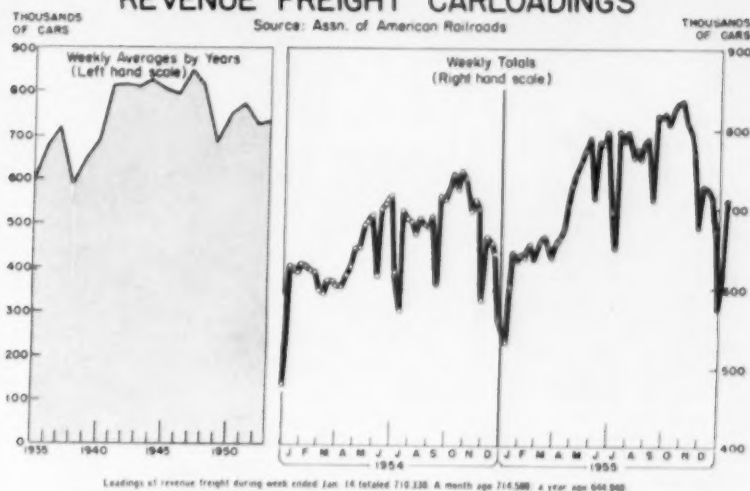


'Transport Future Unlimited' Theme of TAA Meeting

"Transportation Future Unlimited" was the theme of a Transportation Association of America meeting in Chicago last month. Executives of five different transportation agencies outlined their plans for meeting expanding transportation demands in the next 10 years.

The Board of Directors announced the elimination of the Executive Committee, and outlined plans for three Board meetings a year. Dr. George P. Baker, president, announced that a TAA organization is being created in Washington in an attempt to coordinate trade associations activities.

REVENUE FREIGHT CARLOADINGS



National Wooden Box Assn. Names Bronson President

J. D. Bronson, president, Cascade Lumber Co., Yakima, Wash., was elected president of the National Wooden Box Assn. during closing sessions of the group's annual meeting Feb. 6-7 in Houston, Texas. He succeeds L. J. Chaffee, Chaffee Brothers Co., Oxford, Mass.



John M. Nelson, III, The Nelson Co., was elected vice president.

The AMHS will conduct an Industrial Packaging Conference May 4-5 at the University of Buffalo, Buffalo, N. Y.

ICC Grants 6% Rate Increase to Three Transport Agencies

The ICC on March 2 issued an order granting a six per cent general increase in freight rates and charges of the railroads, domestic water carriers, and freight forwarders. The authorization is subject to specified hold-downs and exceptions.

The Commission ordered the three agencies involved which were parties to the proceedings in Ex Parte 196, and which had filed tariffs to become effective March 7, to cancel such tariffs effective March 7. The three had been seeking a seven per cent increase.

The six per cent increase may be established on not less than one day's notice to the Commission and the public by filing and posting in accordance with the IC Act.

ICC Division Assignments

The ICC on Feb. 17 announced the following Division assignments and reassignments:

Div. I, Commissioners Mitchell (chairman), Tuggle and Minor; Div. II, Commissioners Freas (chairman), Winchell and Murphy; Div. III, Commissioners Clark (chairman), Elliott and Hutchinson; Div. IV, Commissioners Johnson (chairman), Tuggle and Hutchinson.

Traffic Assn. Incorporates

Members of the National Motor Freight Traffic Assn. last month formally accepted a certificate of incorporation granted by the District of Columbia and immediately elected a board of 15 directors to serve the corporate body. The directors were the same men who had served as directors of the unincorporated association since Nov. 22, 1955.

Club Briefs

The Philadelphia Chapter of ICC Practitioners conducted a special moot court seminar on argumentation, debate, and hearing room strategy at its last regular meeting.

The Traffic Assn. of New Haven County observed Civil Defense Night at its February meeting.

Joseph Carmody, of the Port of New York Authority, spoke at the February meeting of the Central New Jersey Chapter, Delta Nu Alpha.

Les Allman, president of the Allman Co. of Detroit, spoke at the February meeting of the Women's Traffic Club of New York.

John H. Lewis, of Lewis Shepard Products, Inc., spoke Feb. 9 at a meeting of the St. Louis Chapter of AMHS.

G. C. Loeser, Jos. Schlitz Brewing Co., was elected president of the Milwaukee Traffic Club last month. Other officers are C. F. Dahnke, first vice president; D. G. Ploetz, second vice president; H. J. Jahnke, third vice president; W. K. Corner, secretary-treasurer.

Senator Homer E. Capehart spoke at the Annual Meeting last month of the Traffic Club of Chicago.

John C. Tattersall, Waterman Steamship Corp., was principal speaker at the February meeting of the Philadelphia Chapter, Delta Nu Alpha.

Jack E. Andrews, DNA national president, was guest of honor at the last meeting of the Connecticut Alpha Chapter No. 56, Delta Nu Alpha.

Feb. 20 was observed as Past Presidents' Day by the Traffic Club of Houston.

Barton M. Croll, Reading Railway System, was guest of honor last month at a testimonial dinner sponsored by the Traffic Club of Philadelphia.

Sinclair Weeks, Secretary of Commerce, was principal speaker Feb. 16 at the 46th Annual Dinner Meeting of the Traffic Club of New York.

Western Material Handling Conference and Show

The Western Material Handling Conference and Equipment Show, sponsored by the Los Angeles Chapter of AMHS, will be held in the Western Livestock Exhibit Bldg., Los Angeles, May 9-11, 1956.

Among subjects covered at the conference will be: Automation, conveyors, warehousing problems, radio and electronics, leasing of tools, equipment, etc.

(Please Turn Page)

Chuting the News . . .

(Continued from Preceding Page)

Legislative Line-Up

Following is a brief summary of legislative items pending in Washington. The status reported is as of Feb. 10.

DISASTER INSURANCE—House Banking committee ends hearings which affect 40 bills covering disaster protection. Senate Banking plans its own hearings and is to give close attention to the Lehman bill, S. 3137.

PHANTOM FREIGHT—House Commerce committee has no new plans for treatment of Hinshaw bills, H.R. 528 and 765.

POSTAL RATES—Administration postal rate increase bill, H.R. 2988, is joined by a new measure, H.R. 9228, to provide higher first-class rates. House Post Office committee has not scheduled hearings on either of these.

SHIP MORTGAGES—Partial in-

formation is received by House Merchant Marine committee from federal agencies interested in Boggs bill, H.R. 5109. Comments from U. S. Commerce Dept. still are awaited.

TERMINAL MARKETS—House Rules committee has not moved to clear the Cooley bill, H.R. 4054, for a floor vote.

TRANSPORT POLICY—Hearings are not immediately planned by the Senate Commerce committee, which has S. 1920, or the House Commerce committee, responsible for H.R. 6141, 6142.

TRANSPORTATION TAX—No action is in sight on the Keogh bill, H.R. 6599, pending before the House Ways and Means committee.

TRIP LEASING—Next move on the Smathers bill, S. 898, is up to the Senate majority policy committee.

Private Truck Council Meets

H. O. Mathews, of Armour & Co., Chicago, Ill., was named president of the Private Truck Council of America, Inc., at its 17th Annual Meeting in Cleveland, O., early last month. He succeeds A. B. Gorman, of Esso Standard Oil Co., New York, N. Y., who was named chairman of the Board.

Other officers named were: C. S. Decker, Borden Co., Eastern vice president; Hugo Waninger, Anheuser Busch, Inc., Central vice president; George D. Thompson, J. P. Stephens & Co., Southeastern vice president; George W. Magee, Cocoa-Cola Bottling Co., Western vice president, and Robert C. Hibben, International Association of Ice Cream Mfrs., treasurer.

Speakers included Arthur C. Butler, director, National Highway Users Conference; Representative Ayres, of Ohio, and Senator Magnuson, of Washington.

Traffic

Albert F. Remmers—appointed general traffic manager, and George E. Seitter—named traffic manager, Corn Products Refining Co., Chicago, Ill.

Fred I. Anderson—appointed freight traffic manager, Otis Elevator Co., Yonkers, N. Y.



Wallace W. Mitchell—advanced to manager of the transportation dept., western division, Tide Water Associated Oil Co., San Francisco, Calif.



F. W. Bennett—appointed asst. vp. in addition to his duties as head of the traffic dept.

Harrison B. Haney—appointed manager of transportation, Tide Water Associated Oil Co., San Francisco, Calif.

Transportation—Air

B. B. Gragg—named asst. vp. of the administration, and Homer J. Merchant—appointed general manager of sales, United Air Lines.

MEN IN THE NEWS

Charles P. Knecht—appointed general sales manager; T. P. Delafield—named director of customer services; Charles M. Mashburn—promoted to administrative executive—traffic and sales, Delta Air Lines, Atlanta, Ga.

—Highway

Charles R. Christensen—appointed exec. vice president; George Norstrom—becomes vp. in-charge of bulk commodities division; and Robert Lytel—named vp. in-charge of industry activities, Consolidated Freightways, Portland, Ore.

Jack H. Howay—named president, Freightways Terminal Co., Portland, Ore.

James E. Basham—appointed regional representative, National Highway Users Conference, Washington, D. C.

Robert A. Krovocheck—named vice president; and Clarence J. McCracken—new director of sales, Interstate Dispatch, Inc., Chicago, Ill.

S. K. Porter—elected vice president, Fruehauf Trailer Co., Detroit, Mich.

William C. Grant—appointed operations manager in-charge of all terminals; and Amory Mellen—named asst. to the vp. of operations, McLean Trucking Co., Winston-Salem, N. C.

Mario M. Garthe—appointed traffic manager, Hermann Forwarding Co., New Brunswick, N. J.

Lloyd C. Brandt—appointed asst. to the vp. of traffic and sales; and M. P. Hester—named asst. gen. traffic mgr., Yellow Transit Freight Lines, Inc., Kansas City, Mo.

—Rail

Leo B. Fee—named new director of labor relations; Joseph D. Boylan—appointed director of market research; New York Central System, New York, N. Y. The railroad also announced changes in title and job content, with the introduction of the term "sales" replacing the traditional "traffic." The latter are E. C. Nickerson—now vp., passenger sales and service; and A. E. Baylis, vp., freight sales and service.

H. S. Vierling—promoted to asst. general manager and superintendent of transportation, Chicago & Eastern Illinois Railroad, Chicago, Ill.

(Please Turn to Page 126)

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2. The only direct service between Seattle and Cleveland, Buffalo, Syracuse, Albany and New York City.
3. Daily direct service between Seattle and Chicago.



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INTERNATIONAL S-1840 ROADLINER®

- 24,000 lbs. GVW
- 48,000 lbs. GCW
- 150-hp. Black Diamond 308 engine
- 7,000 lb. front axle
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- 12-inch clutch
- 5-speed overdrive transmission
- 5-speed direct-in-fifth, optional



To give you faster schedules and bigger payloads

Here is a new INTERNATIONAL truck-tractor — new in the “S-Line”—that is built to do more work for the dollars invested!

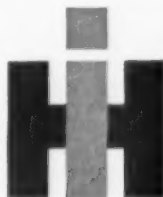
This new Model S-1840 ROADLINER® is economically priced in the 40,000-48,000 lbs. GCW range. And it is built to handle bigger payloads, with a high-torque engine for faster trips and fuel economy that can lead to greater savings.

You can count on the S-1840 tractor for BIG money savings in over-the-years operation and maintenance — because like all INTERNATIONAL Trucks it's *all-truck*, with no passenger car engines or components asked to do a truck job.

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A little red lead makes it official—our name is now Monon Railroad—no longer the Chicago, Indianapolis and Louisville. It's about time, too. For years practically everybody has referred to the line as "The Monon", so now, we do, too. And the identification mark is changed from that confusing C. I. L. to MON—for Monon Railroad.

We hope you will remember the Monon as the easiest, most efficient way to ship. Every shipment, LCL or a trainload receives our best attention.

WE'RE GIVING THE PAST THE BRUSH-OFF...

So, remember, the Monon—dependable, courteous service—all up and down the line.



MONON RAILROAD

THE HOOSIER LINE





Two Clark trucks move 260 of these rolls a day. Unloading, stacking, loading out, that's an average of a roll in less than four minutes during every 8-hour shift.

"It's the same job . . .

but now we save 'Parade' thousands of dollars"

General Public Warehouse Co., Inc., Philadelphia, Pa., uses Clark trucks to move and store almost anything—automobiles, cases of food, carpeting, cement, perish-

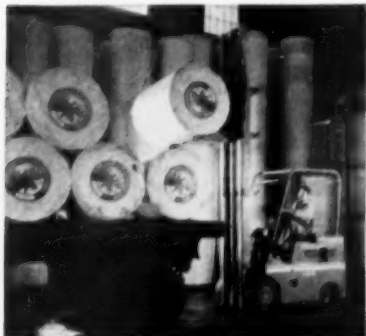
ables. Then there's the "paper job."

Two Clark trucks, equipped with roll clamps, move 260 tons of paper rolls a day for "Parade," the Sunday magazine supplement. Roll clamps eliminate core damage. Vertical stacking, instead of pyramiding, saves 25 per cent in warehouse space, 20 per cent in damaged rolls.

The result? General Public

Warehouse has passed on annual savings of thousands of dollars to its good customer, "Parade"—almost the full purchase price of a new Clark truck.

You may think you're doing the best handling job possible already. Why not make sure by calling your Clark dealer. He's as near as the "Yellow Pages" in your phone book, under "Trucks, Industrial."



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A BETTER BUY WITH LOCAL SUPPLY—*Genuine Clark Parts*

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"Why not let competition work in transportation too?"



"Contrary to a widely accepted belief, transportation is a highly competitive field. People buy transportation like they buy anything else. They pick and choose the one that offers them the most advantages. Monopoly cannot live in a climate like that.

"Yet, for years, Government regulatory rules have been out of step with the facts as they exist in the transportation business. Old, out-dated laws restrict common carriers (those transportation companies whose services are available for all) from joining fully into open competition for business.

"Every man and woman in this nation stands to benefit if all forms of transportation are permitted to price their services in fair and open competition."

"There is encouragement in the recent report of the President's special Cabinet Committee. This Committee, assisted by a working group of unbiased transportation experts, studied the entire picture of federal transportation policies and problems. Their report included two clearly stated recommendations.

"First, they recommended that Congress adopt a new transportation policy for the country, based on equality of competitive opportunity, with a fair deal for all and favors to none.

"Second, they proposed that common carriers be given greater freedom, short of discriminatory practices, of pricing their services.

"These principles are no more or less than the rights other competitive fields of endeavor enjoy in this country—no more or less than the ground rules of free

enterprise that has given this nation and its people the highest living standards in the world, at the least possible cost.

"New legislation, based on the President's Cabinet Report, is now in Congress. Its passage is in the best interest of every man and woman in America.

"For this legislation gives each of the different forms of transportation equal opportunity to do the jobs it is best qualified to do, at the lowest reasonable cost. It does not give railroads any privileges that other types of transportation don't have now or would get.

"The result—the inevitable result—would be more efficient, more economical service to businessmen and the consuming public, who, after all, stand to benefit most."

Arthur K. Armstrong

PRESIDENT, WABASH RAILROAD





Washington

DA

By Ray M. Stroupe, *Chilton Washington New Bureau*

WARTIME RATES UPHELD—Ended so far as the ICC is concerned is another government attempt to recover part of the money it paid for rail freight transportation during World War II. The ICC refuses to reconsider its April, 1955, decision dismissing the federal claim of overcharges, unofficially estimated at about \$2 billion. Rate arrangements between the government and the roads for wartime service are found entirely legal by the ICC.

BIN BONERS FOUND—Navy and Agriculture Dept. failures in inspecting and buying storage bins for surplus government grain in 1954 are charged in a new Senate committee report. Conduct of the program was careless, states the report, and inspection and purchase activities were poorly coordinated. Both the Naval Inspection Service and the Agriculture Dept. have acted to correct their inefficiencies, the committee is informed.

HIKE SPECIAL RATES—Railroads are told by the ICC that they may place higher charges on refrigeration services for freight they transport. The increase, 15 per cent is half as much as the roads requested in connection with all types of special handling provided freight shipments. Opposing the rate rise, the ICC discloses, were many citrus fruit growers and meat and fish packers.

HOLD VESSEL ORDERS—Four companies have new Navy contracts to build fast tankers for 10-year charter to the Military Sea Transportation Service. Six ships are contracted for by Oleum-Atlantic Corp., three by Big Tankers Corp., two by New England Tanker & Shipping Corp., and three by North-Western Tanker Corp.

BACKS ICC RULING—Upheld by the U. S. District Court in Washington is a lenient ICC grant of operating rights to Rock Island Motor Transit Co., Inc. Motor carrier interests had tried to have the ICC action set aside, because the company is wholly owned by the Chicago, Rock Island & Pacific R. R.

PROPOSE PORT TALKS—Port terminal experts from the U. S. and 20 other Western Hemisphere nations plan to meet in San Jose, Costa Rica, late in April to discuss merchant marine and harbor problems. Agenda for the meeting is prepared by a council of the Organization of American States. Government and private industry spokesmen will confer on terminal operations, warehousing, cargo handling, and cargo loss prevention.

MAIL EXPENSES DROP—Cost savings in air and rail movement of mail were essential to the \$118 million net reduction in its transportation outlays from 1953 to 1955, the U. S. Post Office Dept. reveals. But much of the savings can be attributed to factors other than postal management economies. Chief item in this savings category is \$70.7 million in relief from airline subsidies.

CONCUR WITH HOOVER—Many of the Hoover Commission transportation recommendations indicate means to reduce the amount of government competition with commercial carriers, the U. S. Chamber of Commerce now emphasizes. It endorses all the Commission proposals, except that for special freight-rate treatment for federal, state, and local governments. The Chamber favors equal rates for government and private shippers.

TAX WRITE-OFF EASED—Permits from the government will enable two railroads to speed up their tax write-offs on the purchase of more than \$20 million worth of new freight cars. Illinois Central is allowed accelerated write-off for 85 per cent of the \$13.5 million it will spend. Southern Railway is authorized an equal percentage for its \$12 million program.

JUICE HAULS CLIMB—Expanded truck runs are approved by the ICC for a number of highway transporters of Florida citrus juice. Truckers now are permitted to haul the juice into 34 states, using special trailers holding 3,750 gallons each. Carriers in New York, Maryland, Georgia, Florida, Alabama, and North Carolina are granted the new authority.

VIEW COMMAND SITES—Sites that might house a new terminal command headquarters to administer Atlantic Coast embarkation ports are being surveyed by the Army. Selection program will last some time, for the Army has not decided on the need for decentralizing its transportation commands. New headquarters probably would not be in a coastal city. Some sites surveyed thus far are more than 200 miles from the Atlantic.

OPPOSE PIER FEES—Surcharges on truck freight deliveries from certain states to New York piers should be dropped, states a brief recently filed with the ICC. Port of New York Authority and the Shippers' Conference of Greater New York argue in the brief that the 10¢ per cwt assessment is not justified. (Please Turn to Page 90)

UNITED AIR LINES ANNOUNCES

A New Standard of Air Freight Service! In the latter part of April the first of five new DC-6A Cargoliners® will join the United Air Lines fleet. Added to the ten all-cargo planes we have now, these new DC-6As will increase our all-cargo space by nearly 70%.

United's DC-6A Cargoliner is not only a new plane, it is a *different* plane. It incorporates many advanced and exclusive features. It carries up to 30,000 pounds of cargo, at a speed of 300 m.p.h. It ac-

commodates single pieces up to 76" x 81" x 115", and up to 8000 pounds.

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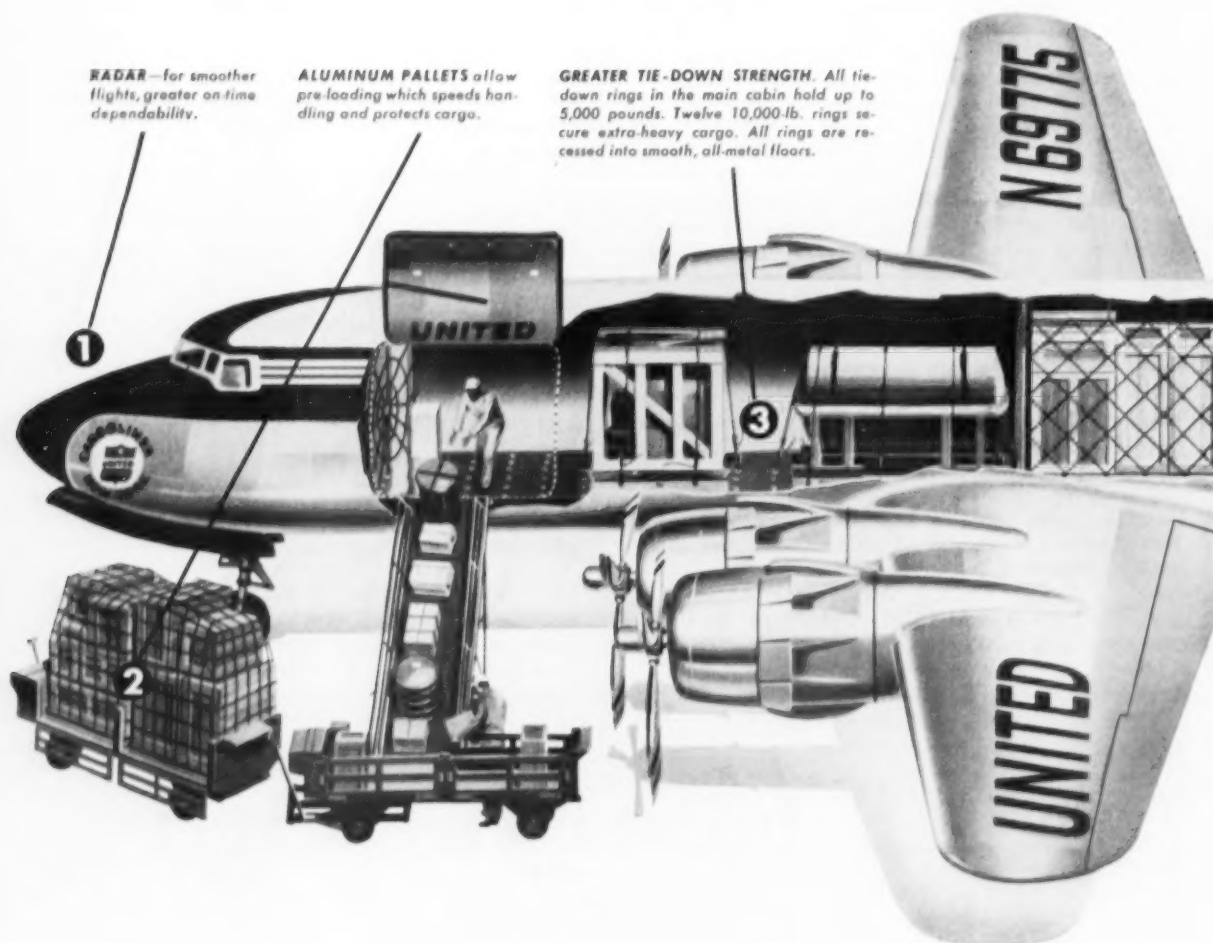
Telemeter Air Bill. Special new equipment and United's vast communications system makes possible the handling of

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WADAR—for smoother flights, greater on-time dependability.

ALUMINUM PALLETS allow pre-loading which speeds handling and protects cargo.

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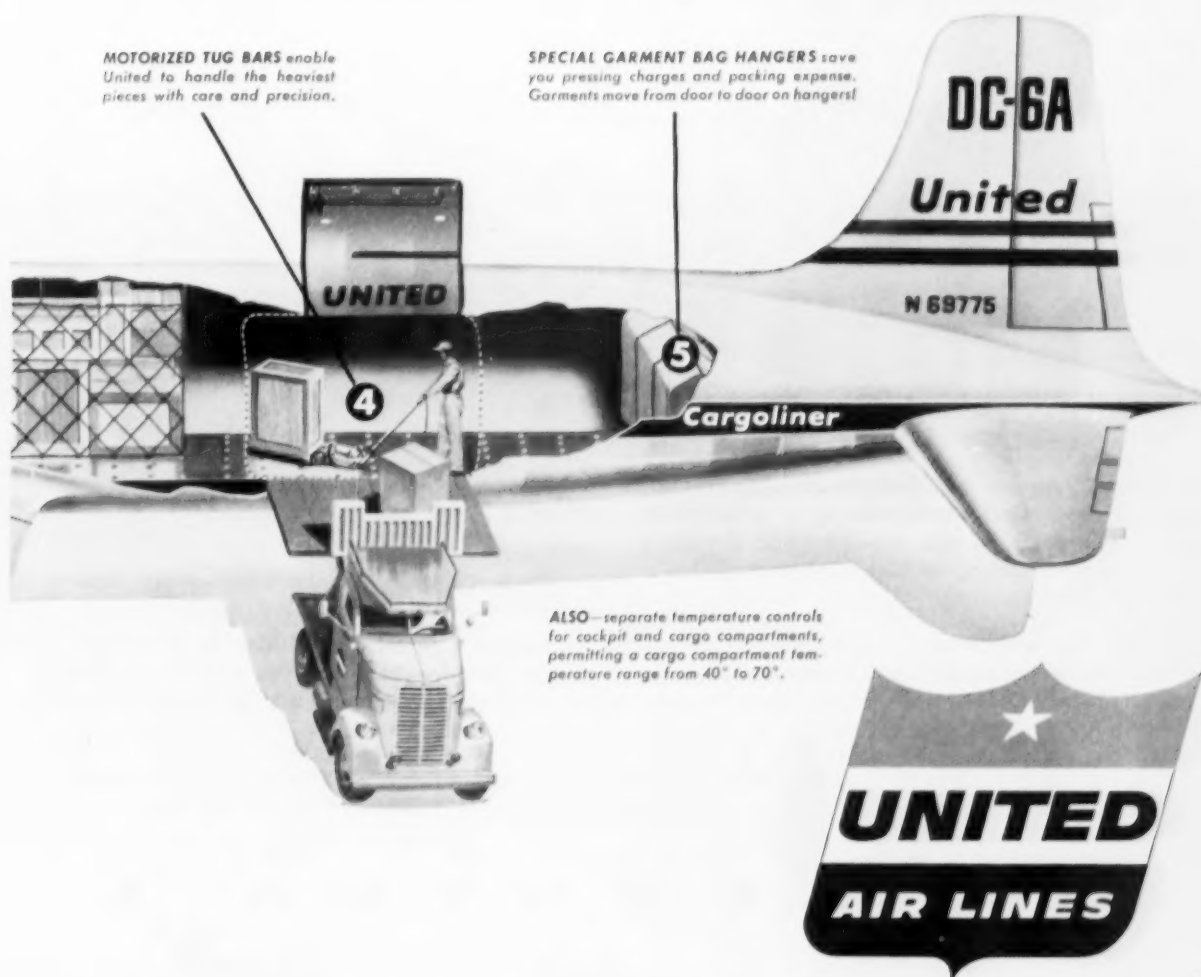
NEW DC-6A CARGOLINERS

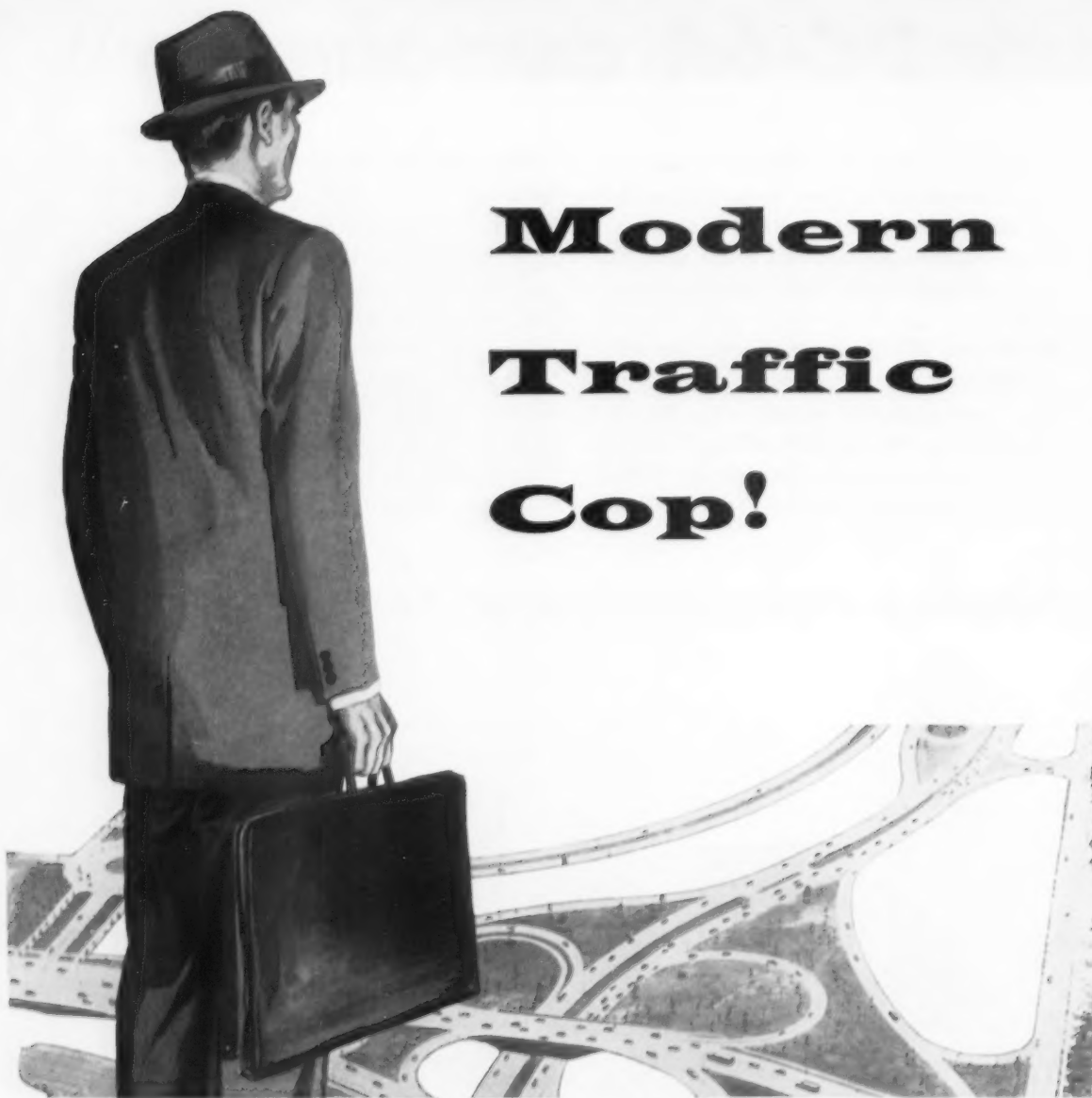
complete air bills by wire. Advance notice of expected arrivals is possible now — while shipments are still in the air. This means the consignee can have pickup arrangements completed when the plane arrives.

Reserved Air Freight Space on All Equipment. An important United Air Lines exclusive. On request you can get advance reserved space on any United plane to any of the 80 cities on our route, and on connecting world-wide carriers.

These exclusives may seem like special handling to you — but they're just part of United's regular routine. Such service features plus the new DC-6As add up to just one thing: *A completely new standard of air freight service for you.* For service or information call your United Air Lines Freight Representative or write for new booklet on air freight tailored to your needs! Cargo Sales Division, Dept. D-3, United Air Lines, 5959 South Cicero Avenue, Chicago 38, Illinois.

shipping convenience, speed, protection





Modern Traffic Cop!

The Man From Central polices the scheduled movement of your traffic from pick-up to consignee's door. He's the man who will integrate Central's Controlled Scheduling to best fit your needs on a *consistent* basis.

You see, The Man From Central knows that road speed doesn't make for fast transportation. It's pre-planning plus Central's emphasis on speedy

handling of freight at points where speed is most desirable . . .

time saving pick-ups . . . freight cleared from terminals daily . . . immediate load consolidation at terminal points . . . no delay in delivery.

Remember, Central's scheduling is controlled to deliver your freight where you need it . . . when you want it . . . consistent with your requirements.



ASK THE MAN FROM CENTRAL ABOUT CONTROLLED SCHEDULING
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THERE'S A two-part highway program being considered by Congress this year—a 13-year, federal-aid highway construction program (HR 8836) and a 16-year revenue raising measure to pay for the program (HR 9075).

The 16-year revenue bill was decided on when it was discovered that, under the framework of the bill, 13 years was insufficient time to raise the money needed.

This year the federal-aid program, as outlined in HR 8836 introduced by Rep. George H. Fallon, contains no financing provisions. This has been left to the House Ways and Means Committee, which has OK'd an amended version of HR 9075, a revenue bill introduced by Rep. Hale Boggs.

Federal-Aid Program

As proposed in HR 8836, federal expenditures for the Interstate System of highways would total \$25 billion over the next 13 years. For the fiscal year 1957, the bill asks for \$1.025 billion (plus \$175 million already authorized for a total of \$1.2 billion). Total for 1958 would be \$1.7 billion and for 1959, \$2 billion.

The \$25 billion represents 90 per cent of the total amount to be spent on the Interstate System in the 13-year period with the 10 per cent balance to come from the states.

For federal-aid primary and secondary highways and urban extensions, HR 8836 authorizes federal funds to the tune of \$25 million (plus \$700 million already authorized for a total of \$725 million) in 1957, \$750 million in 1958, and \$775 million in 1959. States would be required to match these funds on a 50-50 basis.

Further, the bill declares it to be the "intent" of Congress to make progressive increases in the funds authorized for these federal-aid roads of at least \$25 million annually.

As proposed by Congressman Fallon, HR 8836 would deny any Interstate System funds to states which permit greater commercial vehicle size and weight limits than those presently in effect (March 1,

1956) or in excess of the limits set by AASHO in 1946.

HR 8836 also would increase the federal annual emergency fund for disaster damaged federal-aid highways from \$10 million to \$30 million. Also included is provision for federal assistance to states in matters of right-of-way acquisition.

Provision also is made in HR 8836 for a portion of Interstate System funds due a state to be transferred to primary highway construction where there already is in existence a wholly state or privately financed free or toll road on the Interstate System. Such funds could be used to pay off bonds on a toll road with the aim of making it a free road. Further the bill authorizes inclusion in the Interstate System any toll road, bridge or tunnel if it meets design standards and forms a logical segment of such system.

Where's the Money?

Fallon's proposal requires about \$35 billion to finance it, and HR 9075, the Boggs bill, as presently approved by the House Ways and Means Committee, attempts to fill

the need. It asks for increases in federal highway-use taxes effective July 1, 1956 and extending through June 30, 1972—a 16-year program of increased taxes as compared to a 13-year program for highway construction.

Tax Increases

HR 9075, as approved by the House Ways and Means Committee, proposes an annual weight tax of \$1.50 per 1000 lb on trucks weighing over 26,000 lb plus across-the-board increases in present highway-user excise taxes. The weight tax on trucks was not in the bill as originally introduced or as tentatively approved by the Committee a week before the formal OK was given.

Other increases asked for in HR 9075 include (1) from 2 to 3¢ per gal on gasoline, diesel and other fuels, (2) from 5 to 8¢ per lb on tires, (3) from 8 to 10 per cent excise on new trucks, buses and truck trailers, and (4) a new tax of 3¢ per lb on camelback used in retreading tires. The tax increases on fuels would not apply to non-highway use or to scheduled commercial use. (Please Turn to Page 77)

A Look at the New Highway Program

Congress is considering a two-part highway program, including a 13-year Federal-aid construction plan, and a 16-year revenue bill, which has committee OK



Conveyors and Traversers facilitate handling operations in this British Railways up-to-date merchandise depot

British Carriers Adopt Unitized

NOT only on the railways but also in the operation of British Road Services, both of which are part of the British Transport Commission, economy in load handling is being encouraged to the greatest possible extent compatible with available facilities. This is particularly true of palletisation, in spite of the fact that the changeover involves many problems and complexities.

The fork-lift truck/pallet is being used increasingly by the railways in suitable plants, warehouses and depots, while special facilities are being offered for the transport of goods in palletised loads. At the end of 1954, British Railways were using pallets in 47 depots, and plans for the use of this type handling had been authorised, or were under consideration, at 42 other stations.

Regarding the movement of pallet loads on the railways, there were 120 special vans in use by the end of 1954, and it is estimated that more than 200 additional pallet vans have been put into service during 1955. Also, following experimental transits by the railways arranged in conjunction with a number of large firms, several hundred special pallet vans are being built to handle the regular flow of traffic. These vans, designed to carry pallets 40 x 48 in., have been provided with specially strengthened floors and a wide doorway on each side to facilitate loading and unloading of pallets. Partitions are provided to prevent movement of the load in transit.

For general rail transport in the normal type covered van or boxcar, the railways have said that the most suitable pallet size

is 40 x 40 in. with two-way entry. These, or the smaller 36- x 40-in. size permit two rows of five pallets in an ordinary wagon. The 40- x 32-in. size with four-way entry allows two rows of six pallets. However, this size is not so convenient for loading and unloading.

Truck/Pallet System

The ideal conditions for palletised traffic are those in which there is a regular flow of traffic between two points, with possibly compensatory loads in the reverse direction.

Knowing that, in considering the economy of changing over to the pallet system, a trader would normally weigh against the advantages of the system the cost of providing pallets, the additional cost of transporting the pallets, (Please Turn to Page 78)

Economy in load handling—palletization in particular—is being encouraged to the greatest possible extent compatible with available facilities, in the operation of British Railways and Road Services

By John Grindrod, *DA European Correspondent*



Use of collapsible, lidded, and lockable type pallet prevents theft of merchandise



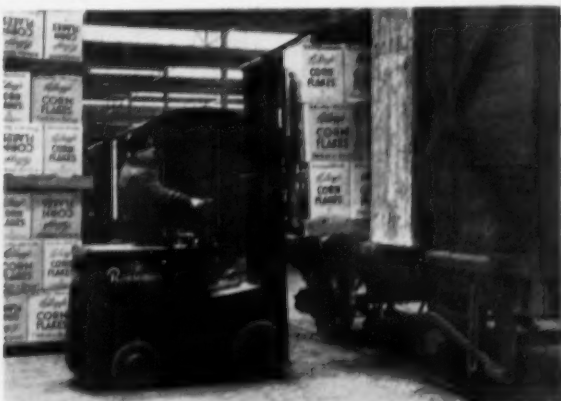
Merchandise is removed from unloading machine, put on pallets and transported by fork trucks to various locations

Handling

Lift truck with a crane attachment handles crated pottery considered unsuitable for pallets because of diverse sizes



Battery-electric mobile crane handles heavy articles and is basically designed for covered van and open truck use. Mechanical loading of bulk materials on pallets reduces handling. Use of fork trucks eases headroom problems



ICC Recommends 39 Changes In National Transportation Law

RECOMMENDATIONS for 39 changes in existing transportation laws have been submitted to Congress by the Interstate Commerce Commission. Accompanying the Commission's 69th Annual Report, they contain some new and some old proposals, but none recommended in the Weeks Report.

The Commission's position on the Cabinet Committee's proposals and the enabling Bill, S. 1920, was submitted separately in an 81-page report last Dec. 22. The report said, in substance, that present statutes, with few changes, could achieve the Administration's objectives. Thus, the 39 changes could be construed as the Commission's version of bringing the National Transportation Policy up to date.

The current recommendations, without their accompanying explanations, follow:

"1. We recommend that section 1 be amended so as to make the car-service provisions therein applicable to express companies.

"2. We recommend that section 1 (15) be amended so as to authorize the Commission to direct the assessment of penalty per diem charges as an aid in alleviating shortages of railroad freight cars during periods of emergency or threatened emergency.

"3. We recommend that section 1 (15) be amended so as to authorize the Commission to determine the compensation to be paid and other terms of any contract, agreement, or arrangement for the use of any locomotive, car, or other vehicle not owned by the carrier using it (and whether or not owned by another carrier).

"4. We recommend that section 4 (1) be amended so as to eliminate the necessity of securing prior approval of the Commission for the publication of rates over circuitous routes equiva-

lent to the going rates over direct routes when, in the managerial discretion of the carriers, such rates are necessary because of competitive factors.

"5. We recommend that section 17 (12) be amended so as to permit the Commission to charge applicants for admission to practice a reasonable charge to cover the cost of determining by a written examination their qualifications, plus a nominal charge for the issuance of a certificate of admission to practice, and that it be further amended to provide that such receipts be retained by the Commission in a special revolving fund to be used to meet examination expenses.

"6. We recommend that section 18 of the act be amended so as to authorize the Commission to (1) prepare special statistical compilations and analyses for parties, private or governmental, on a reimbursement (self-supporting) basis, and (2) retain such reimbursements and other funds received for special services as provided by law, and amounts received for providing photostatic or other reproduction of its records.

"7. We recommend that section 20 (6) be amended so as to make it applicable to persons who furnish locomotives to carriers subject to part I of the act.

"8. We recommend that section 20a (2) requiring authorization by the Commission of the issuance of securities by certain common carriers and other corporations, be amended by including any contract for the purchase or lease of equipment not to be fully performed within one year from the date of the contract.

"9. We recommend that section 20a (12) be amended so as to permit more extensive use of competitive bidding in the marketing of securities.

"10. We recommend that section 20b be amended so as to permit controlled or controlling stockholders of a railroad corporation which is undergoing voluntary modification or alteration under that section to register their dissent to such modification or alteration, subject to the power of the Commission to increase the prescribed

percentage of assents required in such classes for approval of a proposed plan as it may deem just and reasonable in the light of the circumstances presented in the particular case. We also recommend certain minor amendments to paragraphs (2) and (3) of section 20b as described below.

"11. (a) We recommend that section 22 may be amended to enable the United States and the carriers to negotiate as to rates on a firm and unassailable basis.

"(b) We recommend that section 22 be amended so as to make the provisions thereof permitting the performance of transportation services for Federal, State and municipal governments free or at reduced rates applicable only during the time of war, or threatened war, or other national emergency.

"(c) We recommend that the Congress make a thorough study as to the present-day needs respecting the furnishing of transportation free or at reduced rates as now permitted under section 1 (7), 22, 217 (b), 306 (c), and 405 (c) of the act.

"12. We recommend that section 202 (c) be amended so as to make it applicable to transportation by motor vehicle in foreign commerce where the entire movement within the United States takes place within a single commercial zone.

"13. We recommend that section 203 (b) be amended so as (1) to limit the exemption of motor vehicles transporting agricultural commodities, fish and livestock to transportation from point of production to primary market, and (2) to limit such exemption specifically to the transportation of commodities produced in the United States.

"14. We recommend that paragraphs (1), (2), and (3) of section 204 (a) be amended so as to authorize the Commission to require that all motor carriers subject to its hours of service and safety regulations, but not otherwise subject to its jurisdiction, be registered with the Commission.

"15. We recommend that section 204 (a) (4a) of the act relating to exempt motor-carrier operations wholly

ICC on the Weeks Report

**Current proposals — 15 old,
24 new — are viewed as an
answer to recommendations
of the Cabinet Committee**

within a State be repealed, but permitting carriers now operating under such exemption to continue their operations subject to the safety and reporting regulations of the Commission.

"16. We recommend that the second proviso of section 206 (a) (1), which permits certain motor carriers holding State operating authorities to engage in interstate and foreign commerce without authority from this Commission, be repealed, but with a provision preserving the rights of those carriers presently engaged in such operations under the proviso.

"17. We recommend that section 207 (a) be amended to clarify the Commission's authority to issue temporary, or term, certificates of public convenience and necessity, as well as permanent certificates, and, if so amended, that section 212 (a) be amended to provide that such certificates shall remain in effect indefinitely, or for the term issue, until suspended or terminated as therein provided.

"18. We recommend that section 208 (c), which gives special or charter service rights to common carriers by motor vehicle, be amended to make it inapplicable to carriers issued certificates in the future.

"19. We recommend that section 209 (h) be amended so as (1) to empower the Commission to limit the person or persons and the number or class of persons for which a contract carrier by motor vehicle may lawfully perform transportation services, and (2) to provide that motor contract carrier permits may be issued only upon a showing that existing common carriers are unwilling or unable to provide the type of service for which a need has been shown.

"20. We recommend that section 210a (a) and (b) be amended so as to authorize the Commission to grant temporary authorities and temporary approvals beyond a period of 180 days.

"21. We recommend that section 212 (a) be amended so as (1) to make motor carrier operating authorities

(Please Turn to Page 124)

AGREEING with the view that "competition in transportation under present-day conditions should be given adequate play," the Interstate Commerce Commission, nonetheless, has issued a strong protest against "too great a removal of restraints."

The statement, which covered the Weeks Report and S. 1920, its enabling legislation, was accompanied by a covering letter from Acting ICC Chairman J. M. Johnson to Warren G. Magnuson, chairman of the Senate Committee on Interstate and Foreign Commerce.

In the main, the ICC objected to proposed changes in the Interstate Commerce Act which would curb the Commission's power to prescribe precise rates, and which would reduce suspension powers.

Law of the Jungle

In connection with the "removal of restraints" theory, Mr. Johnson's letter said, "We do not quarrel with the view that competition in transportation should be given adequate play. However, we caution against too great a removal of restraints.

"Resort to the law of the jungle with competition in full play will not produce the desired transportation system.

"Complaints against reductions in rates on the claim that they unnecessarily dissipate carrier revenue frequently arise. Those complaints are by railroads against railroads and motor carriers against motor carriers. They ask protection by the Commission against such disruptive practices.

"If the law were amended as suggested by the Advisory Committee, this source of redress would be unavailable."

The Commission also advanced the view that, "in the main, the indicated objectives of the Advisory Committee may be effectuated within the framework of the present statutes."

The covering letter said, "The dominant effect of the proposed legislations would be to permit all rates to gravitate to the bare compensatory level. In administering the present Act, this Commission has encouraged healthy competition between competing carriers.

"At present one of the duties of the Commission is to determine the reasonableness of rates. What are reasonable rates is not delineated in the present Act, but is left to be determined by certain standards and guideposts provided by the Congress.

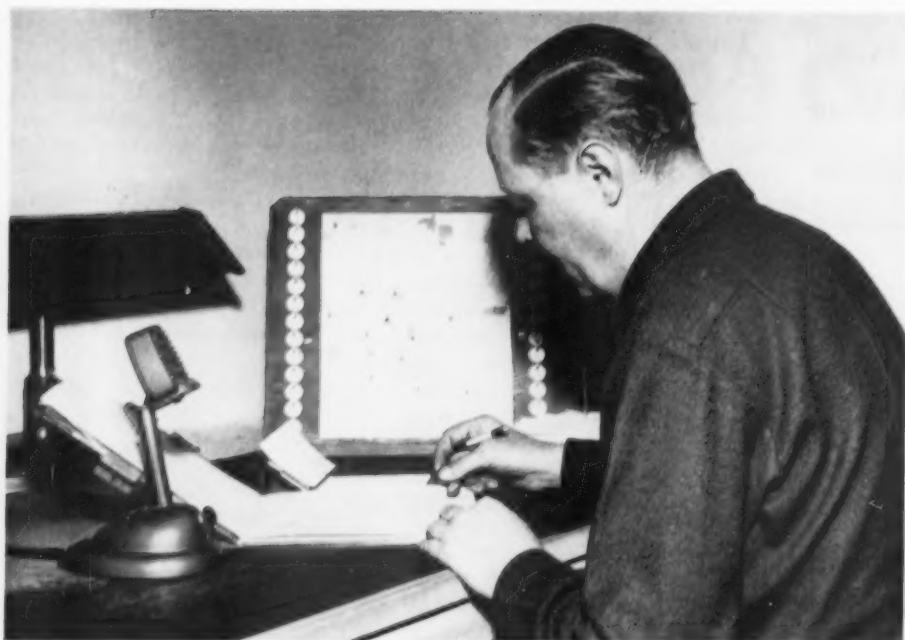
"The avowed purpose of Congress was to foster sound conditions in transportation required in the public interest. What the Report proposes, and the Bill requires, is that the duty to establish reasonable rates be maintained, but that the Commission be left without power to restrain excesses. We seriously question the prudence of this proposal."

Competitive Forces

The ICC took exception to certain provisions under the Advisory Committee's first-listed objective, "increased reliance on competitive forces of transportation in rate making."

Commenting on this objective, the Commission said, "Under the heading Obsolete Regulation, the Committee expresses the view that the underlying concept of this regulation has continued to be based on the historic assumption that transportation is monopolistic, despite the fact that the power of individual transportation enterprises to exercise monopoly control has been eliminated by the growth of pervasive competition."

The Commission pointed out that, prior to the advent of the motor carrier, regulation was controlled, in large measure, by both monopolistic conditions and excessive competition. With development of highway transportation the emphasis has shifted largely from intra-agency to inter-agency competition.



Dispatcher relays incoming calls to the 31-truck fleet operating within 10- to 12-mile radius of the terminal

Routing by Radio Expedites

Use of two-way radio system has resulted in increase of almost 100 per cent

SOME 750 daily pickups and deliveries now are being made by the Merchants Dependable Delivery Service, Portland, Ore., as compared to about 400 prior to the installation of a two-way radio communications system on its 31-truck fleet.

Early in 1953, Merchants decided to try the radio communications system, in an effort to increase the productivity of delivery units.

Single Transmitter

Since the company has only one main freight terminal, the installation required the use of only

one transmitter, which is in operation from 7 a.m. to 6 p. m. daily.

The drivers of all vehicles within a 10- to 12-mile radius are able to carry on a two-way conversation, either with the terminal station or from truck-to-truck.

The radio sets, which operate on the 460 to 470 MC band, are claimed to give the terminal dispatcher more flexible control over the trucks. Formerly, a request for pickup and delivery of merchandise could be relayed only when a driver telephoned the dispatcher. However, with customers and drivers calling in, the telephone lines always were loaded to ca-

capacity, causing delay in service.

Now, calls for pickup and delivery service are received at the terminal by two assistant dispatchers, who record the necessary data and forward it to the dispatcher. Since the exact location of all vehicles is known to the dispatcher he is able to direct the nearest truck to the pickup point.

Personnel Reaction

At first, driver reaction regarding the use of the new units was not good. The majority of the personnel felt that the radio system was too confining. However, after



By Harley D. Bozeman

*President, Merchants Dependable
Delivery Service, Portland, Ore.*

Assistant dispatchers receive regular requests for pickup and delivery of merchandise via telephone

Local Cartage

in daily pickup and delivery service

the men had worked on the radio-equipped trucks for a short time, management noticed that the drivers were beginning to "talk it up," with the result that they were accomplishing more work with less effort. Also, the new system gave the men feelings of satisfaction and relaxation, since problems and questions requiring on-the-spot decisions could be turned over to the office immediately via radio.

The estimated cost of the transmitter and equipment for the truck fleet would have been \$20,000. However, the Pacific Telephone and Telegraph Co. offered to lease the equipment to Merchants. The company accepted the lease offer, which included complete maintenance service.

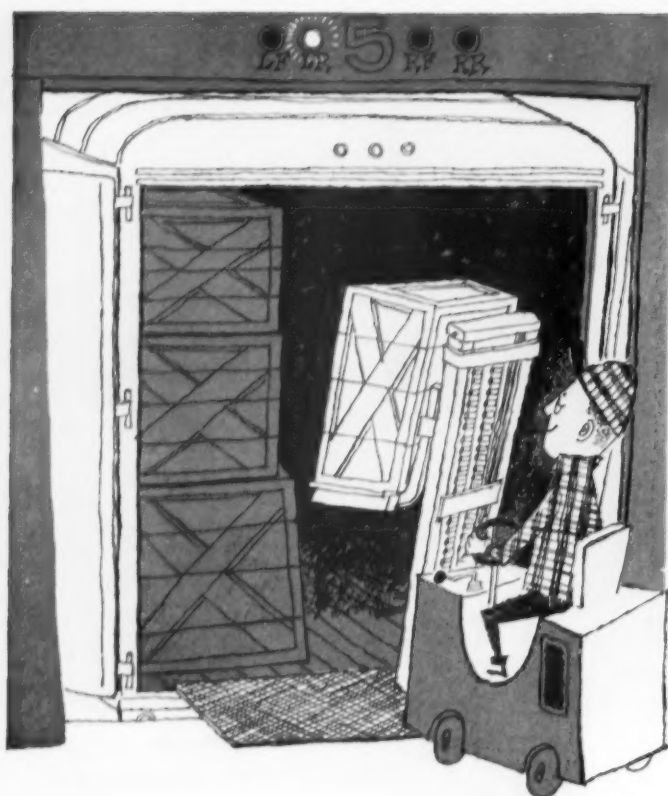
We have found that use of the communications system has increased profits, improved customer relations, and eliminated delays in the transit of merchandise—a sound formula for better business.*



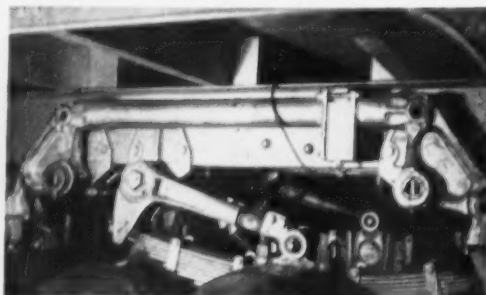
The master Motorola transmitter-receiver set is located in dispatcher's office, and operates on 460-470 mc band

Driver calls in for instructions. Prior to two-way radio system he would have had to telephone terminal office





Adapter fitting built into push-pull equalizer tube for weighing tandems



By E. S. Safford

President, Control Cells Corp.
Boulder, Colorado

Are You Really Getting

INEFFICIENT loading is costing the trucking industry a sizeable fortune. Even with the high cube trailers, many units are rolling away from the dock without payload which they could carry legally—because of insufficient load-control methods.

Most of the larger companies now have axle weighing scales. But these seldom are used until after the trailer is loaded fully and moved away from the dock. Then, when an overloaded axle is discovered, the trailer has to be returned to the dock for reloading. This takes time and costs money.

In at least one fleet the dock workers have developed the habit of purposely loading the nose of the trailer light, so that when

overloading is spotted all they have to do is unload from the rear until the overload is remedied. While this may cut reloading time, it means many of the fleet's units are rolling with less than maximum loads.

This could be avoided if truck operators were able to control their loads during the loading process, and if they could know immediately when an axle was loaded to capacity and when the maximum gross load limit was reached.

Today, thanks to recent developments in the electronics field, instrumentation is available which will tell what is going into the trailer while it is being loaded.

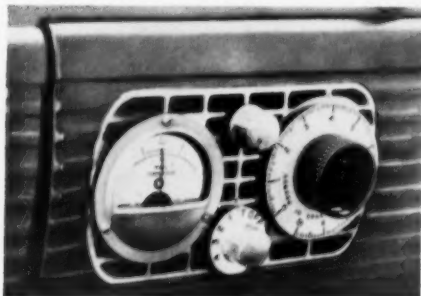
A study was made recently of

one fleet which operates several hundred tractors and trailers.

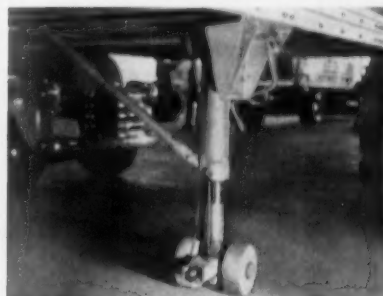
Using standard 35-ft tandem trailers and rear loading, this company checks the weight of every combination on terminal scales before the rig goes on the road. If an axle or tandem is over-loaded, the unit is returned to the dock for load adjustment.

Records showed that of approximately 50 trailers leaving the dock each night, an average of one trailer was returned for load rebuilding—an average of two per cent. On the basis of 500 trailers operating over the entire system, it meant 10 trailers a night were reloaded. On the basis of a 22-day work-month, a total of 2,640 trailers had to be reloaded in a year.

Weight indicator on dash permits driver to weigh loads without leaving cab



Adapter fitting built into landing gear leg for load weighing at the dockside



Inefficient loading costs truckers a small fortune. A solution to this problem may be found in better load control via instruments

Maximum Loads?

In this fleet, the dock men were using the trick of light nose-loading. Checking the records, it was found that the company had an average drive-axle loading of only 12,000 lb, with tandems of the trailer generally close to the legal limit.

The trailers legally could carry 18,000 lb on the single drive-axle, but they were going out on the average at 12,000 lb. They were leaving 6,000 lb of potential profit behind on every trip. At an average hundred-weight revenue of 75¢, this was a revenue loss of \$45 a trailer a night. With 500 trailers operating 22 days a month, this amounted to a statistical revenue loss of \$495,000 a month, or \$5,940,000 a year.

Of course full legal loads can't

be realized on every trip. But, if this particular company increased its drive-axle loadings by only 1,200 lb instead of 6,000 lb, it still would increase revenue by \$1,188,000 in one year.

Need Fewer Units

This same company found that, due to underloading at the nose of the trailers, it was necessary to arrange for additional units to move all the freight on schedule. For example: after two trailers had been loaded for destination "A," it was found that 10,000 lb of "A" freight was left on the dock. A third trailer was called from the pool, loaded, and sent out. Properly loaded, the first two trailers could have carried the left over 10,000 lb. A check of the

company's figures showed that, with proper load control, approximately 10 per cent of the equipment could be retired and still handle the same tonnage.

Ten per cent of the 500-unit fleet is 50 units. An average tractor-trailer combination represents an investment of \$25,000. Fifty units would require an investment of \$1,250,000 or would represent a saving of that much if they were eliminated. Additional savings also would be realized. Fifty drivers at \$5,000 a year is \$250,000 a year reduction in driver costs; license fees for 50 units; insurance; operation and maintenance costs—all could be eliminated by proper load control.

Over-Equipping

Some trucking companies will rationalize their present operation as sufficient because they are using tandem drive-axle tractors. With this arrangement, it is quite difficult to overload the nose of the trailer. This solution, however, is not the efficient, profitable one. By "over equipping," it is possible to reduce the worry of overloading. But it is neither efficient nor profitable to pay the cost of the additional equipment, the additional maintenance, and the additional operating costs of tan-

(Please Turn to Page 80)

THE SINGLE word, *competition*, emerged as the keynote recently as a group of the nation's leading shippers and carriers gathered in Washington at the U. S. Chamber of Commerce sponsored Transportation Outlook Conference.

Regardless of what happens on the transportation legislation scene, both carrier and government representatives indicated that the individual carrier's well being in 1956 will depend, more than ever, on his ability to meet competition.

Several of the papers presented at the Conference are excerpted below:

The Small Shipment Is Here to Stay

By Walter K. Cabot
*General Traffic Manager
Johnson & Johnson*

For the last two decades, and particularly in the 10 years since the end of World War II, our economy has been going through a radical change. Many new business enterprises have been established and others with the same amount of capital and the same facilities are doing 10 times the amount of business they formerly enjoyed. As a result, they cannot maintain their former inventory levels and must turn their stock over more frequently.

Diversification and decentralization demand a wider distribution to smaller outlets. To further complicate matters, you and I have become more and more se-

lective as the buyers market developed. We want to have a wide selection to choose from when we buy. If this division of the total inventory does not entail stocking of the products of many different manufacturers, it does mean a continual reordering in small lots of replacement stocks to fill the line to its utmost for the next purchaser. So the small shipment is here to stay.

Unfortunately the transportation agencies have been all too slow or unwilling to recognize this problem and take steps to settle it. It is difficult of settlement. First, it must be analyzed to determine just what the whole problem, and its individual component parts, are. Today's rate structures indicate a wide discrepancy in even the definition of a small shipment. That would seem to be a basic factor to be determined, but rather than attempt it here, I refer to all lcl or ltl shipments as small shipments.

Because of their greater flexi-

bility and their comparative newness, the motor carriers reacted first and set about to offer to the shipping public a fine expedited service on small shipment traffic.

For a considerable period, motor carriers were the only ones who indicated, by other than lip service, that they would or could handle small shipment traffic. The shipper, faced with the necessity of supplying his customer, with whatever quantity ordered, in time to meet his competition, turned more and more to motor carrier service. But year after year he was paying a higher and higher price for this service. The lack of competition did not encourage the carriers to increase their efficiency.

"Gadget Rates"

Of particular concern to the shipper was the fact that because the problem had not been clearly analyzed the increased revenue was sought by adding all sorts of ingenious gadgets to what was once a proper rate structure. In many cases, there is no sound relationship between the resulting rate or charge and the costs and value of the service performed.

Now we come up to about two years ago. The motor carriers are handling most of the small shipment traffic under a hodge-podge of rates that make it most difficult, if not impossible, for shippers to pay and meet the demands of their markets.

Some shippers turn to the formation of non-profit shippers co-operatives, others with a substantial volume of small shipment traffic turn to pool cars and trucks—common, contract, and private.

Transport Outlook

Whatever 1956 holds in store for transportation—and

Traffic Stepping-Stone

It may sound trite to say that agency which best meets our needs will get our traffic to a particular point or area. I think it is pretty clear that shippers who have a keen interest in small shipment traffic are on a stepping-stone. Which way we step depends upon the actions the transportation agencies take. If the motor carriers give more than lip service to increasing their efficiency and reflect that improvement in a reasonable and realistic rate structure, I believe they can hold a substantial portion of our traffic. If railroads continue to improve their lcl service, they will regain a sizable volume of this traffic.

**Walter K. Cabot, President
National Small Shipments Traffic Conference**

for the Year Ahead

prospects are bright—the emphasis will be on competition

At about the same time we find an awakening in the railroad industry. They start a concerted drive to recapture lcl traffic and rejuvenate their facilities and forces to handle it. The motor carriers begin to feel they may be approaching the limit to which rates on small shipment traffic can go, and turn more attention to increasing their efficiency. Singly, and as an industry, they start to study the problems created by this new economy's traffic.

Here the National Small Shipments Traffic Conference came into being. These changes did not happen on several fronts at the same time strictly by coincidence, and neither did the formation of the Conference.

Those shippers interested in small shipment traffic were desperate. If they were to reach their markets at all something had to be done. Their ultimate goal was no different than that of any other shipper.

We believed and still believe that the transportation agencies of this great country must adapt economical and efficient methods and procedures for handling small shipment traffic—that we as shippers, if they adapt such methods, need the motor carriers, rail carriers, freight forwarders, express companies, airlines and parcel post. From shipper to shipper and industry to industry our needs between these different agencies will vary, but among us we need all of them.

If the transportation agencies comprising our great transportation system are to continue to expand their operations, it is a primary requirement that they solve

the small shipment problem. As we look ahead to 1956, 1957, and future years, I believe they will.

Shippers of small shipments are more dependent upon the common carrier transportation agencies than these shippers of other categories. Our distribution is widespread and our concentration of traffic to one point generally limited. We need the services of the common carriers who meld our traffic from and to various shippers and receivers into a volume that will support and efficiently utilize modern procedures.

Because those of us who have had to divert from common carriage for reasons of economy, have reluctantly had to accept a delayed service in order to consolidate shipments, I believe a realistically priced small shipment rate structure will return this most desirable small shipment traffic to the common carriers. This realistic price structure must work two ways. As I mentioned before, it must reasonably cover

the carrier's cost of handling the traffic and it must bear a direct relationship to the value of that service to the shipper.

A Shipper Speaks Out On Heavy Industry

By Warner B. Shepherd

General Traffic Manager
Aluminum Company of America

While the right of everyone to transport himself and his goods by his own means is fundamental, I think there will be no serious disagreement with my conviction that a strong, sound, efficient for-hire transportation system, privately financed and managed, is vital to the continued economic development of the United States, nor with the further belief that the very heart of such a system is the common carrier.

It has been said that private carriage offers a threat that may some day destroy the common carrier. This I do not accept as true.

In the old days, when one agency or another of for-hire carriage had a monopoly, maladjustments of the rate structure threatened either the public or the individual carriers within the agency. Today, with intense competition among the agencies, most of these dangers have disappeared. It has become obvious that the regulatory laws designed to protect the public or to keep the carriers from destroying themselves or each other, or both, are in need of modernization.

There certainly can be no ob-
(Please Turn to Page 81)

Dynamic Competition

What I see from my valley is the need for a sound, strong, privately-owned, well-managed competitive transportation system, working under ground rules that permit the free play of economic forces without ham-stringing dynamic competition but rather allowing full play to the inherent characteristics of each form—to the end that each may find its own best sphere of operation. Thus may we hope to achieve what Sir Geoffrey Heyworth predicts for transport undertakings—better service to their customers, more attractive jobs to their staff, reduced operating costs and an adequate return on capital invested.

Warner B. Shepherd, GTM
Aluminum Company of America

Maintenance and Repair of Industrial Trackage

Part III Rails & Joint Bars

By B. J. Myers

*L. B. Foster Company
Pittsburgh, Pa.*

CONSIDERING the problems of maintenance of industrial trackage from the bottom up, we have covered the ballast and roadbed, ties, tie plates and spike fastenings. The next story in our track structure is the rail.

In the case of construction of new track, the services of an engineer or firm specializing in the railway field should be employed for design and specification. In the case of replacement of work rail, probably the safest practice would be to install the same type and weight of rail as that being discarded. The single most important factor to keep in mind is the rail weight; a heavier class of rail being required for lines bearing heavy traffic. In that connection, when rail is being replaced, it may be desirable to go to a heavier or lighter weight of rail if the traffic pattern has changed. The tendency today is to go to a heavier weight rail when old sections are replaced.

Ordering Rails

A simple method of ordering rails is the following technique: Place a piece of paper against the end of the rail to be replaced and impress its outline into the paper, by pressing a finger against the rail edges. Be sure the paper does not move while the impression is being made. On the impression, mark the height, base and head dimensions, as well as the following:

1. Distance from end of rail to center of first hole.
2. Distance from center of first hole to center of second hole.
3. Distance from center of second hole to center of third hole, if six-hole bar is to be used.
4. Hole diameter and elevation (location above rail base).

Substantial savings can be obtained in track costs in industrial plants by using relaying or second-hand

rails rather than new rails. High quality used rails are selected and processed so that they will meet all standards specified by railway engineering associations.

Rail Joints

One of the most critical components of rail construction is the rail joint. A rail joint is a fastening designed to unite rail sections into one continuous rail. Also, the rail joint serves to hold rail ends accurately, evenly and firmly in place to assure even rail surface and rail alignment.

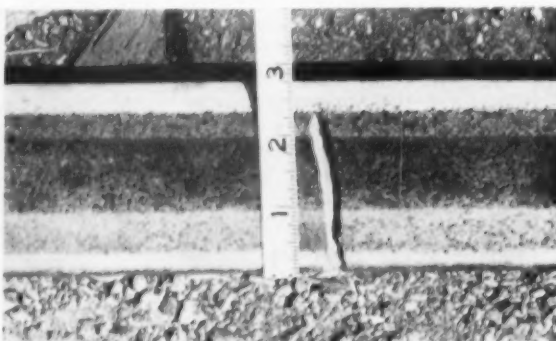
Essentially a rail joint consists of two joint bars or steel members which are installed one on each side of a rail. They are held in place with bolts and usually with spring washers to assist in maintaining bolt tension.

There are two basic types of rail joints used for industrial track work; the angle bar and the splice bar. The angle bar is a steel bar which is rolled in a variety of cross-sections. The splice bar is a flat bar. Angle bars and splice bars are mated for the rail on which they are to be used, and specifications generally list them together with the data on the rails so that they can be easily matched when ordering.

As in the case of rail, substantial economies can be effected by purchasing used rather than new angle and splice bars. These are available for every type of weight of rail, so that it is possible to get the proper match necessary for satisfactory service.

For cases where it is necessary to connect rails of different heights and sections, a special joint known

A badly damaged rail caused by lack of adequate support. The ties and the roadbed have completely deteriorated



Regular inspection of component parts—ballast, track drainage, ties, tie-plates, rail anchors, joint and splice bars, gage rods, spikes and bolts—included in well-organized maintenance program

as a compromise bar is used. This may be an angle or a splice bar of such shape that it brings the gage sides and the crowns of the rails into line and maintains them in position. When the variation in height between the two rails to be joined is more than one-half in., an accessory known as a "step chair" is used. It is a stepped flat plate unit which provides proper support and gage alignment for the smaller of the rails.

Some plants having an electrified trackage system also have need for insulated rail joints. They are designed to arrest the flow of electric current from rail to rail, as at the end of a track circuit, through the use of non-conductors which separate the rail ends from the other metal parts. These should be installed and maintained under the supervision of a track expert.

Joint Fastenings

Rail joints are held in place with bolts and spring washers or nut locks. Standard track bolts are of button head, oval neck design, fitted with square nuts. Bolt head and neck are forged steel with U. S. Standard rolled threads, free-fit style. In specifying the bolt size, the nominal diameter given is the overall thread diameter. The length is measured from under the head to the extreme end of the bolt.

Since it is uneconomical, if not completely unfeasible, to properly reclaim used bolts, they should be purchased new and in first quality. Regardless of how well the various components of the track structure are made, the structure will only be as sound as

the fastenings, such as bolts, spikes, washers, nuts, etc.

As a means of maintaining adequate and uniform bolt tension, spring or lock washers are used with the track bolts. These are of two general types, either single or double convolution. Rail joint assemblies should not be so tight that rail movement, due to temperature change, is restricted. However, if bolts are too loose, wear on the rails, joint bars, bolts and nuts, is accelerated. The washers furnish positive resistance to the backward movement of nuts, assure uniform tension at desired degree of tightness, and serve to absorb shocks and impacts from rolling loads.

Track Bolts

A track bolt should be long enough to pass through the joint bars, the rail web, the washer and the nut. When the nut is firmly in place about two of the bolt threads should remain on the outside of the nut. If the bolt is too long, the nut may reach the inner end of the threaded portion before the bolt is tight. A bolt that is too short will not give full thread service.

Depending upon the specific design of the joint, four of six track bolts are used. In fastening a rail joint, the heads of the first and third track bolt are placed on the outside, and the heads of the second and fourth bolts on the inside of the rail to prevent a derailed wheel from stripping all the nuts from a joint.

Two classes of fit are used in trackage work, wrench-tight fit and finger fit. In either case, a
(Please Turn to Page 79)

Poor drainage around ties, loose bolts and excessive rail expansion at joint, shows need for maintenance and repair

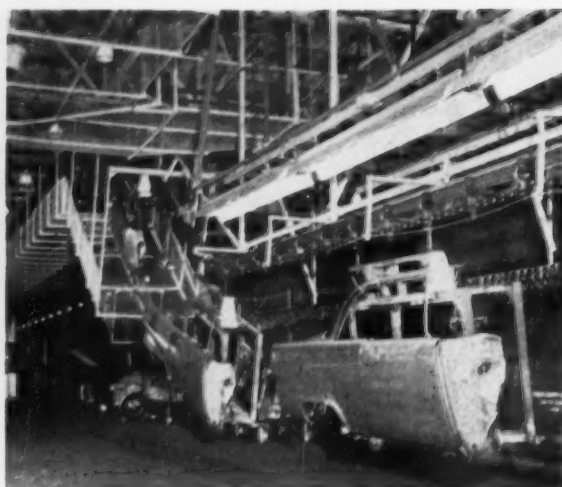


Rail break and wear due to rail batter. Note old, worn tie plates, rail and joint bar; also loose spikes and bolts





Section of the more than 200,000 sq ft of storage space at the new Ford Motor Co. Stamping Plant in Cleveland, O. Note the wheeled storage racks



The vast circulating monorail conveyor system, extending almost two miles within the Cleveland Plant, delivers car body sides to the shipping docks

Mechanization Trends in Materials

An intra-plant materials handling plan, as well as integration of plans between plants,

A MERICAN industrial power has become the greatest single force for freedom found in the world today.

The key to this success is productivity. Industrial effectiveness depends on work methods, machines, power, materials, and organization. Note that I used the word productivity and not production. Production always can be increased by adding more people or working longer hours. Productivity is obtained by realizing the most out of available men, machines, and materials, and at the same time, not overtaxing their normal calculated capacities.

Pre-World War II, the majority of the industry thought of in-

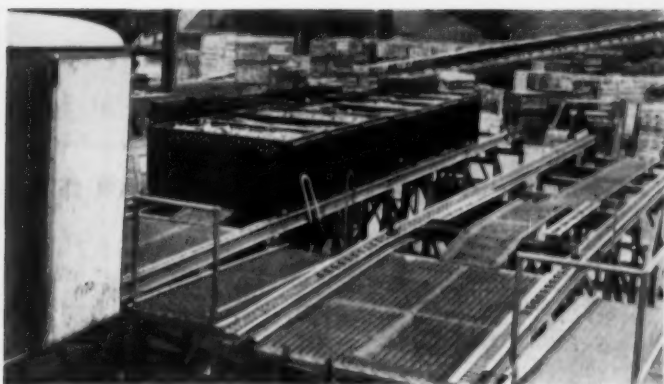
creasing productivity in terms of greater mechanization of our manufacturing processes. Conveyors became the cure-all for practically everything. Since all eyes were glued to the actual manufacturing process, they were oblivious to the collateral aspects of manufacturing such as receiving, storage, handling, shipping, and transporting.

Then, along came World War II, and industry was faced with retooling, manufacturing items foreign to its normal scope of endeavor, as well as protecting, and transporting these items to our various battlefronts. Superimposed on this adjustment was the time element. It was necessary to

move in a hurry. A tremendous volume of materials had to be produced, moved, and delivered to many destinations in the same condition as when they left the plants.

In the post-war period, the Ford Motor Co. was undergoing extensive reorganization, and the new management team readily recognized the potential advantages of engineering handling of materials.

Management considered materials handling as an essential item in increasing productivity. It placed materials handling engineering on an equal footing with plant layout, manufacturing research, industrial engineering, and production analysis, in such a manner as to insure maximum



Free-standing, conveyORIZED loading and unloading stations—the standard racks of parts are placed on stations at convenience of fork truck operator

Approximately 200 railroad cars can be loaded and shipped daily from the new Plant to Ford-Lincoln-Mercury assembly plants all across the Nation

Handling

facilitates flow of materials

cooperation between all elements of the team which engineers for production.

In such an organization, materials handling engineering is not required to fit modern equipment and methods into a predetermined plan. It participates in the initial basic planning, both for new facilities, and the improvement and rearrangement of present operations.

It is my opinion that a successful materials handling program cannot be achieved in any company unless materials handling engineering is given equal status with other manufacturing engineering departments, and is allowed to freely express its opin-

ions so that collateral aspects of manufacturing will be fully considered. This does not mean materials handling engineering is always the dominant manufacturing factor. Relative values must be attached to each phase of manufacturing, including materials handling, and an analysis of these values will indicate the manufacturing method to be followed. The

Air-powered ram pushes scrap-filled, wheeled containers into dumping device which pours the steel trimmings on conveyor for feeding baling press

By D. J. Davis, Vice President—Manufacturing, Ford Motor Co.

important thing is to have the handling factors properly engineered so they may be evaluated in terms of overall manufacturing costs.

Materials handling engineering is on the Ford manufacturing engineering team from the manufacturing staff to the plant level. These engineers work closely with
(Please Turn to Page 82)

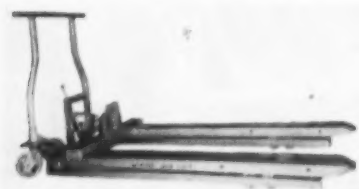


PRODUCTS

... FOR FURTHER INFORMATION

Hydraulic Pallet Lift

The General Hydraulic Pallet Lift, developed by **Pallet Vault Corp.**, has been improved by the addition of a foot pedal lifting mechanism, requiring only a few

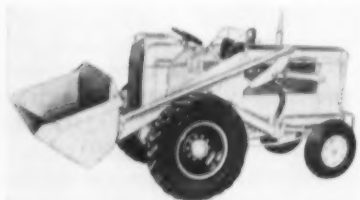


strokes to raise forks from a 3¼-in. lowered position to 5½-in. maximum lifting height. The lift has a 2,250-lb capacity, double welded frame and rubber-tired guide casters. Fork length is 54 in.; width between forks is 18 in., width of forks 6 in., and overall width 30 in.

Circle 50 on Card Facing Page 49

Front-End Loader

A new front-end loader is announced by **Tractomotive Corp.**—the TL-11 Tracto-Loader. The 1¼-cu yd TL-11 is designed for those operations requiring a ma-



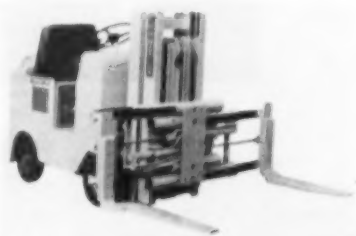
chine with a large lifting capacity and capable of operating in confined areas. It has front wheel drive and is equipped with rear

wheel power steering. It has a 3:1 torque converter and a clutch-type transmission which permits changes in the direction of travel without shifting gears. At the normal carrying height of 3 ft, the bucket can be tipped back to an angle of 41 deg. At ground level, the bucket can be tipped back 22 deg. Maximum clearance under the hinge pin when dumped is 10 ft, 3 in., and at this dumping height the machine has a reach of 2 ft, 7½ in.

Circle 51 on Card Facing Page 49

Combination Attachment

A hydraulic clamp and offset fork attachment is being manufactured by **Towmotor Corp.** With this accessory, the lift-truck carriage can be adjusted laterally to handle heavy loads of varying size and shape. This makes it particu-



larly well suited to operations where a lift truck must be used interchangeably as a clamp truck and a fork-lift truck—and to applications where a great variety of different widths of pallet loads are handled. Hydraulic actuation of the clamp provides for quick adjustment of the forks.

Circle 52 on Card Facing Page 49

Sit-Down Platform Truck

A sit-down type, electric powered low-lift platform truck has been developed by **Elwell-Parker**

Electric Co. Operator fatigue is reduced and because of the flexible design, operator vision is improved substantially.

The new model is available in capacities ranging from 10,000 to 20,000 lb. Platform sizes can be



varied to meet specific needs. The truck is equipped with four wheel steer, hydraulic platform lift, and can be built with hydraulic power steering.

Circle 53 on Card Facing Page 49

Stevedoring Truck

A stevedoring truck has been introduced by **Automatic Transportation Co.** A modification of the popular gas-electric **Dynamotive**, it features a new cooling system and lifting eyes to facilitate getting unit on board ship.

The new cooling system is designed for efficient performance in hot, dusty areas, as the hold of a



ship. It provides for increased radiator capacity and faster engine cooling. Lifting eyes are on the uprights and the counterweights, just behind the seat.

Circle 54 on Card Facing Page 49

and EQUIPMENT

PLEASE USE THE READERS' SERVICE CARD • • PAGE 49

Powered Dock Ramp

The Wayne Pump Co. has introduced the Dock-O-Matic, a powered dock ramp. In one unit is combined an adjustable steel dock ramp and a power activating mechanism. No piping, special



wiring or pit construction is required. It can be installed in any location. The base of the cylinder is mounted on the bottom of the pit with the entire mechanism above the ground. A spherical, self-aligning bearing assures efficient operation of the cylinder even if it is not correctly aligned.

Circle 55 on Card Facing Page 49

Aluminum Hand Truck

Its M-101 Series aluminum truck now is available in 40 standard sizes, according to the Magnesium Co. of America. The standard



sizes consist of widths from 24 in. up to 48 in. in 6-in. increments and lengths from 30 in. to 72 in. in

6-in. increments. Following are among principal M-101 Series construction and operating advantages claimed by the manufacturer: All-aluminum construction cuts weight as much as 80 per cent; bed construction of exclusive high-strength, low-weight "W" section aluminum extrusions permits the entire bed to act as a spring; heavy-duty aluminum swivel casters with oversize Timken bearings placed at opposite ends of a long, large-diameter spindle eliminate binding and assure easy swiveling.

Circle 56 on Card Facing Page 49

Heavy-Duty Tandem Drive

Two new heavy-duty tandem drives, one, a unit of 28,000-lb ground loading capacity with an over-the-end static loading of 48,000 lb; the other, in the 45,000 to 50,000-lb ground loading range



with an over-the-end static rating of 72,000 to 90,000 lb now are available from Clark Equipment Co.'s Axle Div.

The new tandem drives have a double reduction carrier with spiral bevel gears, a full floating type axle with housings designed for the static loads necessary for crane carriers and other off-highway vehicles. By using a through-type drive rather than a conventional differential carrier, minimum mounting height is obtained and additional overhead clearance is provided.

Circle 57 on Card Facing Page 49

Heat-Resistant Belting

A new kind of rubber conveyor belt that outlasts conventional hot material belts by as much as three to one has been announced by The B. F. Goodrich Co. The new line of



hot material belts, known as Solarflex, is made with a special man-made rubber. Field tests show that the special rubber remains pliable and elastic even when exposed for long periods to the baking action of hot materials at temperatures up to 350 deg.

Circle 58 on Card Facing Page 49

Pressure Sensitive Tape

A new pressure-sensitive tape has been designed for industrial sealing applications which require an adhesive to keep out dust, water, wind, and foreign particles. It is useable for assembly-line sealing or access holes and other apertures in automobile bodies; sealing cartons, containers, and fiber tubes during storage or shipment; and sealing protective coverings in large equipment manufacture. The tape unwinds easily from the roll, and grips the surface applied. This tape, designated as No. 186 Behr-cat Black Sealer by Behr-Manning Div., Norton Co., has a high adhesion of 42 oz per inch of width.

Circle 59 on Card Facing Page 49

(Please Turn Page)

DA NEW PRODUCTS and EQUIPMENT

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Strapping Tape Cutter

An adjustable cutter for use with heavy duty strapping tapes is available from the **Permacel Tape Corp.** The cutter, made of

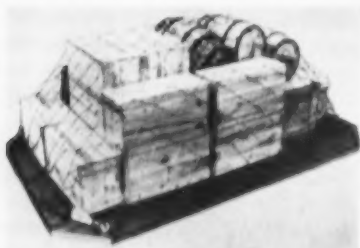


heavy molded plastic with a steel cutting edge, is designed for use with either 1/2- or 3/4-in. tapes and can be adapted quickly for either size. The fine-honed edge is suited for cutting the heaviest strapping tapes in common use.

Circle 60 on Card Facing Page 49

10,000-lb Cargo Net

Supplementing its line of tie-down equipment, a new steel cargo net (Model A-2) is announced by **Eastern Rotorcraft Corp.** The net has four major uses: To secure



low density shipments, to form compartments in cargo areas, to provide a safety barrier, and to carry cargo.

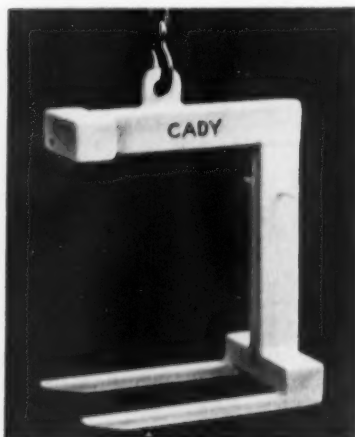
Two design features of the net

contribute to its adaptability for a variety of cargo handling jobs. One is its diamond-shaped grid pattern which is retained by slip-proof swaged fittings at each cable joint, but which permits elongation of the diamond in either direction. Rings on two adjacent sides and hooks on the other two sides permit the joining of two or more pairs of nets to make larger nets for greater loads or areas.

Circle 61 on Card Facing Page 49

Pallet Crane Attachment

A new crane attachment for transporting palletized materials under existing craneways has been developed by **Cady Metal Fabricating Co.** This pallet lifter can be

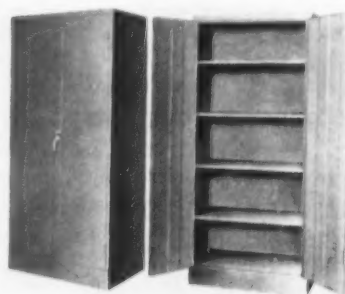


used under monorails or bridge cranes as a substitute for or a supplement to lift trucks. It is particularly adaptable to moving pallet loads between floor levels in plants or across areas where truck aisles do not exist. Made from alloy steel, the lifters are available in capacities from one ton up. Models without counterbalances or with adjustable forks also are available.

Circle 62 on Card Facing Page 49

Storage Cabinets

The addition of three new storage cabinet models to its line of steel office furniture has been announced by the **Burroughs Mfg. Co.** The three styles are storage,



wardrobe and combination, and are convertible, with interchangeable interior parts. Each model has a single central handle, three-point latching device, and enclosed throw-bolt mechanism.

There are no bolt heads on the front, sides or back of the cabinets; and the smoother interiors have no projecting lugs. Shelves are adjustable on 1-in. centers without tools. All cabinets are 36 x 78 in., available in 18- and 24-in. depths.

Circle 63 on Card Facing Page 49

Rotating Roll Clamp

Lewis-Shepard Products, Inc., announces a new 360-deg rotating roll clamp which handles rolls from 24 to 48 in. in diameter in either the vertical or horizontal position. With this clamp, rolls in



the vertical position can be picked up when against a wall or another roll, and rolls in the horizontal position can be picked up when there is nothing solid behind them. The clamp itself consists of

two hydraulically operated arms which have a range of 22 in. minimum to 52 in. maximum.

Circle 64 on Card Facing Page 49

Bulk Material Delivery

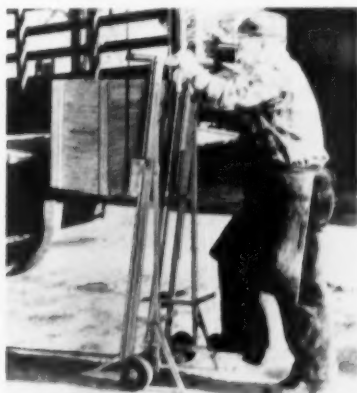
Development of a new device destined to enlarge substantially the field of rail distribution of bulk granular materials has been announced by General American Transportation Corp.

Utilization of rail-truck facilities to effect off-line deliveries is made possible by the development of a portable Airlide transfer unit. Intended for use with General American's Airlide car for the shipment of bulk materials, it permits transfer of the materials at rail points to special trucks for delivery to off-track plants. The new unit is attached to the discharge outlets of the Airlide car, and the material is moved by an air pressure system into trucks. The device is mounted on pneumatic-tired wheels.

Circle 65 on Card Facing Page 49

Light-Weight Lift Truck

Hydralift, Inc., has introduced a light-weight hydraulic lift truck which weighs only 50 lb but can

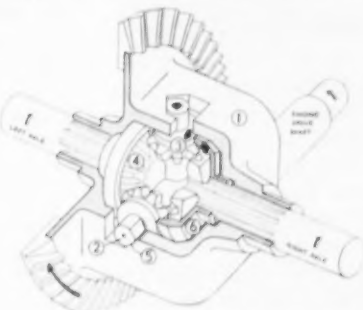


lift a 500-lb load to a height of 49 in. Resembling an ordinary hand-truck in appearance, the Hydralift features a specially designed hydraulic jack. When the operator steps on the foot pedal which operates the hydraulic system, the platform is raised 2½ in. at a time to a maximum height of 49 in.

Circle 66 on Card Facing Page 49

Non-Slip Differential

Studebaker has announced that its half-ton truck is available with a non-slip differential as factory-installed equipment. Chief advantage is the greater utility of trucks possible because the new differential permits operations when weather and road conditions would not allow efficient operation with a conventional differential.



Studebaker-Twin Traction differential divides the driving power or engine torque between the rear wheels in a way that is directly opposite to conventional differentials. The major engine driving force is transmitted to which ever wheel has the best traction as compared to a conventional differential which lets the power go to the rear wheel with the least traction. The main purpose of the new non-slip differential is to allow trucks to operate when the traction of one wheel is limited.

Circle 67 on Card Facing Page 49

Air Ride Suspension

Development of air ride suspension for GMC trucks has been announced by the GMC Truck and Coach Div.



The new type of suspension, whereby air-filled rubberized bellows replace the conventional metal leaf springs, eliminates

spring lubrication, repairs and replacement.

Either fully or partially loaded, it provides smoother ride for driver, resulting in less fatigue; absorbs vibration and road shocks, reducing breakage of fragile cargo; permits lighter-weight less-expensive packaging of goods, and increases trailer payload capacity by lowering the floor height.

Tractors with air suspension are able to haul trailers and semi-trailers that have either the conventional leaf springs, or air suspension.

Circle 68 on Card Facing Page 49

First-In, First-Out

First-in, first-out live storage of boxed or palletized loads, tote pans, etc., can be obtained with this new live storage rack, made of Alvey-Ferguson live rails. A-F live rails have two rows of wheels,



and each rail serves two lanes. Guards are built integral with the rails, eliminating separate guard mounting. Length, width and height can be varied to meet requirements.

Circle 69 on Card Facing Page 49

Adjustable Storage Rack

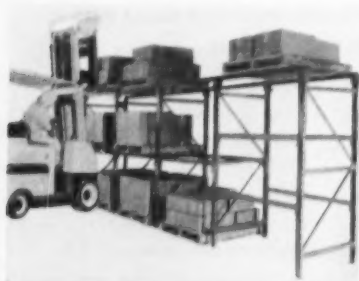
Sturdi-Bilt Steel Products has introduced an adjustable storage rack. The rack can be used interchangeably for pallets, skids, dies or bulk, or for combinations of stored materials. It is assembled without bolts, nuts, erection welding or special labor, and is valuable for firms whose needs include rapid expansion of storage facilities and/or storage facilities that can quickly be dismantled or adjusted where necessary.

Sturdi-Bilt adjustable storage
(Please Turn Page)

DA NEW PRODUCTS and EQUIPMENT

CONTINUED FROM PREVIOUS PAGE

racks are composed of only three basic parts—upright frame, support beam, and floating wedge lock. The upright frame is avail-



able in five heights—6, 7, 8, 9 and 10 ft, each 30, 38 or 44 in. in depth. Support beams, which are locked to upright frames anywhere, on 3-in. centers throughout the entire height, can be obtained in four clear widths—46, 54 and 106 in.

Circle 70 on Card Facing Page 49

Industrial Tires

A two compound construction, combining long wear with high resistance to abrasion, cuts and chips, is used on a new line of solid pressed-on industrial tires just announced by United States Rubber Co. These new tires will be made for use on all powered industrial truck equipment, including fork-lift trucks and tractors.

The outer three-fourths of the tire is made of a new compound similar to the tread used on the finest pneumatic truck tires. The base compound, next to the steel band, is a resilient solid tire stock that provides a cushioning effect and lets the tread function similar to the tread of a pneumatic casing. The base portion of the tire also is chip-resistant.

Circle 71 on Card Facing Page 49

ries, provides safety advantages for heavy trucks on steep downgrades because of an in-built hydraulic retarder. Also effective in heavy traffic, on curves and other highway situations, the retarder's effect is up to six times engine drag with little or no service braking needed on most downgrades.

Circle 72 on Card Facing Page 49

Light-Weight Wheels

A line of new light weight wheels for floor truck and trailer application has been announced



by Nutting Truck and Caster Co. Of aluminum alloy, approximately 50 per cent lighter than ordinary molded on rubber tired wheels, they meet the demand where light weight and non-spark properties are required. An additional advantage is their demountable rubber tire feature, which permits on-the-job tire replacement. They are available in 4 in. to 12 in. diameters in a variety of hub lengths and axle sizes.

Circle 73 on Card Facing Page 49

Heavy-Duty Trucks Introduced by Chevrolet



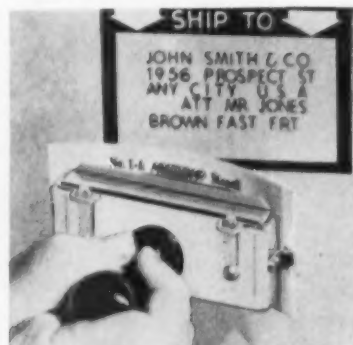
Chevrolet has announced 40 new hauling giants having up to nearly double the capacity of any truck previously produced by the company. The new vehicles, all in the 2½-ton class, are in addition to a lighter series, covering one-half

to two-ton models, announced late in January. Capacities range up 32,000-lb maximum gross vehicle weight, and 50,000-lb gross combination weight.

Powermatic six-speed automatic transmission, available in the se-

Hand Stamp Duplicator

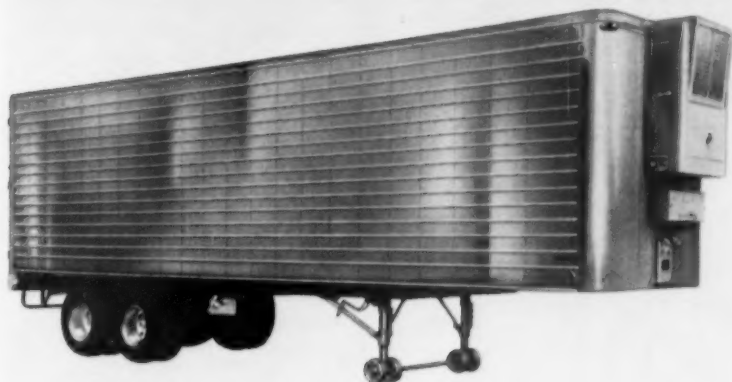
Multistamp Co. has marketed a hand stamp duplicator for the shipping industry. Shippers can



use a typewriter or ball-point pen to fill in a low-cost stencil. The stencil is snapped onto a duplicator and up to 1,000 stampings can be made from a single inking.

Circle 74 on Card Facing Page 49

Smooth Aluminum Panel Refrigerator Van



Circle 75 on Card Facing Page 49

Fruehauf Trailer Co. has announced a new smooth aluminum panel refrigerator Volume Van which incorporates an insulation set-up that provides up to 25 per cent more efficiency in its insulating qualities when new, and achieves this figure with 2 in. of insulation as compared with 3 in. on previous installations. This difference in thickness gives the new

unit a gain of five per cent in payload volume.

The van has a maximum size of 35 ft outside length, 34 ft, $\frac{3}{8}$ in. inside length, and 83 $\frac{5}{16}$ in. inside height with an inside width of 87 $\frac{7}{8}$ in. Minimum weight is 12,625 lb, which includes the RL-30 ThermoKing refrigeration unit. This is a two per cent saving in original weight.

New Carton Grab

For rapid handling of cartons and packages without pallets, Hyster Co. has introduced a new Cart-N-Grab for Models UC-30 and YC-40, 3,000 and 4,000 lb ca-

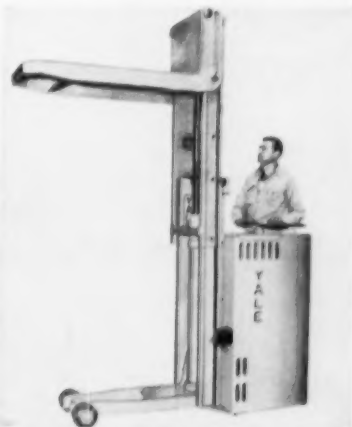


capacity lift trucks. The Cart-N-Grab arms will accommodate packages from 22 $\frac{1}{8}$ in. to 70 $\frac{3}{4}$ in. Incorporating both the Hyster Load-Grab and Side Shift features, the unit holds entire packages firmly.

Circle 76 on Card Facing Page 49

High-Lift Platform Truck

Yale & Towne Mfg. Co. has developed a high-lift platform Warehouse which permits stacking of skids and skid bins in narrow aisle storage areas. The Warehouse, a



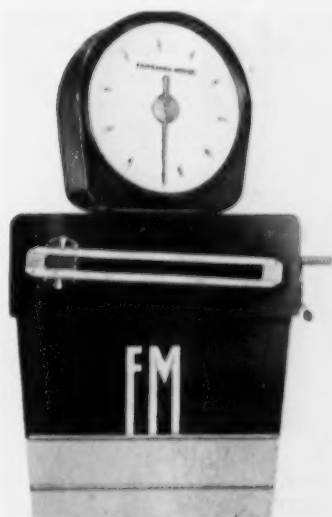
very short, electric, stand-up lift truck, was developed for use in installations where narrow aisles, low floor load, moderately lengthy travel and speed in operation are of prime importance. The truck in all models is designed to operate

in aisles of less than 8 ft, and in some designs, in aisles as narrow as 6 ft. A 4,000-lb capacity truck, the new Warehouse has an overall height of 68 in. and a maximum platform height of 96 in. In the lowered position, the top of the platform is 6 in. from the floor.

Circle 77 on Card Facing Page 49

Cabinet Dial Scales

Fairbanks, Morse & Co. has introduced a new line of Floazial cabinet dial scales. Four features



are incorporated in the cabinet dial design: A direct reading dial, a full swivel head, a cage-type central column construction, and a controlled-speed dash pot.

Circle 78 on Card Facing Page 49

Car Icing Hose

An improved model of Goodyear Tire & Rubber Co.'s ice slinger hose has been marketed. Designed to blow crushed ice into refrigerator rail cars, trucks, airplanes, and other fresh food carriers, the hose is said to be lighter, more flexible and easier to handle than the 1955 model. It is a wire-inserted, hand-built hose with a smooth, $\frac{1}{8}$ -in. tube compounded of special rubber with extreme resistance to abrasion. The cover is fluted. It will be available in sizes with inside diameters ranging from 3 to 5 in.

Circle 79 on Card Facing Page 49

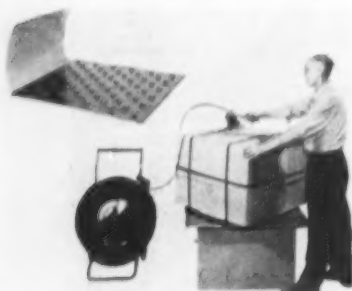
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DA NEW PRODUCTS and EQUIPMENT

CONTINUED FROM PREVIOUS PAGE

Strapping Table Top

The new Signode Steel Strapping Co. strapping table top enables the operator to stand in one position while rotating heavy containers for packing or strapping. It provides a safety factor

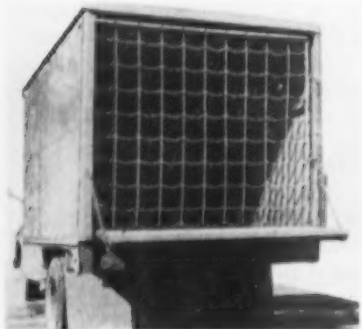


because these heavy containers are handled with a minimum of effort. The table top may be mounted on a permanent or portable base or in conveyor lines. A metal strap guide can be used as optional equipment.

Circle 80 on Card Facing Page 49

Truck Chain Gate

A new, improved truck chain gate that permits full loading and



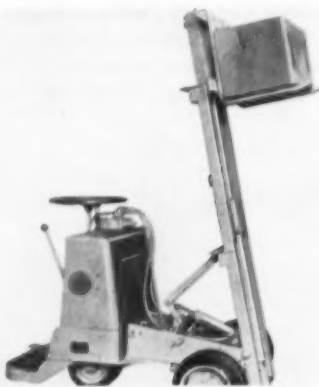
prevents loss of end loads on trucks or trailers has been announced by Bolt and Chain Div., Republic Steel Corp. Because of

the wide variance in sizes of rear openings on van-type trucks, this easily installed chain product is custom-made to individual specifications. The horizontal top bar, the anchor bar and vertical sliding angle iron are all sized to fit individual requirements. A hasp type fastener on the chain gate assures secure locking and discourages theft.

Circle 81 on Card Facing Page 49

Optional Tilting Mast

The Kwik-Mix Co. has announced an improvement to its Model S-10 Moto-Bug. Future models of the three-wheel fork-lift unit can be equipped with an optional double-acting hydraulic valve that enables an operator to

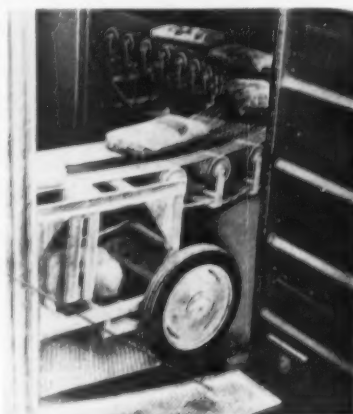


tilt the mast and raise loads with one hand. With the hydraulic lift attachment the mast can be tilted 10 deg toward the rear to assure better load balance or 2 deg forward to aid in picking-up or releasing a load. Standard forks are 30 in. long and adjustable from 6 to 32 in. in width. The S-10 has a lift capacity of 1,000 lb at 15-in. load center with maximum lift to 6-ft height.

Circle 82 on Card Facing Page 49

Boxcar and Truck Loading

Featuring finger-tip control, this Power Curve Conveyor Co. power driven box car loader shuttles in and out of cars and trucks, eliminating hand trucking. It discharges bags and packages at desired elevation at the point of final stacking. The conveying arrange-



ment is a series of steel spring belts operating over grooved rollers that are hinged together. The entire conveyor can be propelled, snake-like, through any curve or doorway on a radius as low as 6 ft. Conveying capacity is 30 bags per minute.

Circle 83 on Card Facing Page 49

Toggle Stands

Increased versatility by the addition of toggle stands to two models of the aluminum Stevedore, Jr., power conveyor has been announced by Rapids-Standard Co. Now the 10-ft and 12½-ft aluminum models are available with the new toggle stands, and they can do many of the jobs for-



merly possible only with the all-steel Stevedore, Jr. They can be set at varying pitches up to 29 deg.

Circle 84 on Card Facing Page 49

**FREE**

LITERATURE

Warehouse Directory

A 76-page directory, covering warehouses serviced coast-to-coast, has been published by **Associated Warehouses, Inc.** Contents include photographs and information pertaining to the facilities available, such as railroad siding, storage area, insurance rates, delivery service, etc. An index of warehouses also is included in this pocket-size edition.

Circle 90 on Card Facing Page 49

Electric Vehicle Line

A brochure, illustrating and describing the complete line of electric industrial vehicles, is offered by the **Laher Mustang Mfg. Co., Inc.** The Trucker will carry up to 1,500 lb yet operate at low cost. These electric units, used for hauling, delivery and personal use have many features relative to use in industrial plants, warehouses, factories, etc.

Circle 91 on Card Facing Page 49

Racks and Handling Equipment

Equipment Manufacturing, Inc., has developed a line of standard racks and containers that meet the majority of the basic requirements of industry. Specifications and detailed information are available in a 6-page catalog now available. Special constructions and features also are offered to meet requirements.

Circle 92 on Card Facing Page 49

Portable Lift

A one-page, two-color catalog sheet, detailing its new 112 telescoping portable lift, now is available from **The Oster Mfg. Co.** The new model, which has a capacity of 1,000 lb, also features a battery-powered hydraulic lift. The literature features both product and operating photographs, together with detailed specifications.

Circle 93 on Card Facing Page 49

Gummed Tape Tips

Gummed tape tips, on how to use and store gummed tape, is described in a pocket-size folder just published by the **Gilman Paper Co.**

Circle 94 on Card Facing Page 49

Integrating Palletization

The **White Motor Co.**, has released a new booklet entitled, *Lower Delivery Cost Per Case By Integrating Palletization With the White 3,000*. Various pallet plans and case capacities, as well as the advantages of low-bed units, etc., also are explained.

Circle 95 on Card Facing Page 49

Hydraulic Tail-Gates

Publication of a new two-page catalog describing its Model H-11 series **Load-N-Gate** power-lift hydraulic tail-gates, is announced by **Hercules Steel Products Co.** Operation, controls and construction are described in detail, along with suggested applications and specifications.

Circle 96 on Card Facing Page 49

Axle-Caster Assembly

The new swinging axle-caster wheel mounting unit combines the advantages of free-turning caster or full control axle steering. This versatile assembly, presented in a release issued by the **Bronco Products Co.**, is claimed to provide double duty performance from every materials handling truck, and is available to meet specific needs.

Circle 97 on Card Facing Page 49

Fork Truck Data

The new **Transveyor** fork trucks are described in two four-page bulletins, just published by the **Automatic Transportation Co.** The booklets contain specifications of construction, electrical features, and mechanical system, as well as the various truck models available.

Circle 98 on Card Facing Page 49

For prompt service, use
postage - free postcard
provided to obtain **FREE**
LITERATURE and **NEW**
PRODUCT information
described in this issue.
All material is **FREE**
unless otherwise noted.

Bulk Scales

A two-color, six-page bulletin, describing three models of the Class 38, automatic weighing unit for bulk materials, is offered by **Richardson Scale Co.** The bulletin discusses construction, operation, feeding arrangements, and capacities for the scales. A complete line of accessory equipment also is included.

Circle 99 on Card Facing Page 49

Conveyor Information

Reports on new products and new applications in the conveyor field now are available in the *Rapid Handler*, a publication issued monthly by the **Rapids-Standard Co.** Also included are case histories of unusual installations, and descriptions of new and forthcoming conveyor and caster types.

Circle 100 on Card Facing Page 49

Plant Site Selection

A new booklet, entitled, *Thirty-seven Suggestions for Successful Plant Site Selection*, suggests the major points to be given consideration in locating a new industrial plant. The booklet was prepared and issued by the **Elgin, Joliet & Eastern Railway Co.**

Circle 101 on Card Facing Page 49

Industrial Truck Line

A new, four-page folder, which covers their complete line of industrial trucks, is available from **Lewis-Shepard Products, Inc.** This condensed folder, fully illustrated, gives a brief description of each of the 42 trucks and their attachments.

Circle 102 on Card Facing Page 49

Magnesium Dock Board

A new, simplified method of determining magnesium dock board requirements and costs, is presented in a bulletin, **PK-156M**, prepared and released by **Magnesium Products of Milwaukee.** Dock board information regarding axle load capacities ranging from 4,500 to 14,500 lb, is described.

Circle 103 on Card Facing Page 49
(Please Turn Page)

... Free Literature

(Continued from Preceding Page)

Business Systems & Equipment

The opportunities offered by the Remington Rand Institute to business executives who wish to enhance their knowledge of business systems and equipment, are outlined in a new brochure entitled, *Invitation to Learning*. The eight-page illustrated booklet touches briefly on the objectives of different seminars; outlines general procedures followed and the subject matter covered.

Circle 104 on Card Facing Page 49

Job Studies

Savings in concrete block handling techniques are illustrated and described in a set of three field reports, Nos. 8, 79, 82, published by the Hyster Co.

Circle 105 on Card Facing Page 49

Bridge Ramp

A portfolio, available from the Moffat Steel Co., gives in detail, all the information necessary to pick out the exact steel bridge ramp to meet most bridging situations in the movement of material in production and distribution. A release showing specifications, weights, and prices, also is available.

Circle 106 on Card Facing Page 49

Flat-Plate Battery

Flat-plate batteries are illustrated and described in a new folder just issued by the Exide Industrial Division of The Electric Storage Battery Co. Known as the Powerclad, these batteries feature high power, electrical efficiency and dependability coupled with low operating costs.

Circle 107 on Card Facing Page 49

Bill Payment Plan

A sight draft payment plan which offers shippers and receivers a more rapid and less costly method of settling air freight bills has been placed in effect by United Air Lines. Details are described in a release recently issued by the company.

Circle 108 on Card Facing Page 49

Airtube System

Lamson Corp., announces the availability of a catalog entitled, "Airtube On Target." This 50-page book describes the several sizes of Airtube systems, central desk and the semi and automatic switch systems, as well as the variety of carriers that are available.

Circle 109 on Card Facing Page 49

Shipping Container

A reprint, presented by Dravo, entitled, "A Saving for Shippers," describes the many advantages gained with these large-capacity, welded steel containers, such as no special export packing, reduced damage-theft losses, etc.

Circle 110 on Card Facing Page 49

Airfoam Fire Systems

Information about Foamite Airfoam Fire Extinguishing Systems is included in a 36-page booklet made available by American LaFrance Corp. The booklet contains engineering data and other useful facts on fixed fire protection systems, portable equipment, and semi-portable equipment.

Circle 111 on Card Facing Page 49

Power Sweeper

Various models, design and operational features of power sweepers are fully covered in a brochure offered by the Wilshire Power Sweeper Co. A scale graph showing annual cash savings by the use of the sweepers in industry, is presented in the release.

Circle 112 on Card Facing Page 49

Shelving Equipment

Precision Equipment Co. has just published a new catalog featuring steel shelving, lockers, as well as other storage and maintenance equipment for industrial and institution use.

Circle 113 on Card Facing Page 49

BOOKS

Industrial Storekeeping Manual

This first edition contains comprehensive coverage—in terms of actual company practices, not theories—of how stores department costs can be slashed; how departmental efficiency can be upped; how modern techniques of management can be put to work in day-to-day stores operations for greater profits. This book, which can be used for daily reference as well as for long term planning, describes—on the practical, dollar-and-cents level—layout of storage areas, materials handling, storage means, location systems, receiving, standardization, records and forms, and stowage, plus other operations in today's so-called cost-conscious industry. Distribution Age Book Division, 56th & Chestnut Sts., Phila. 39, Pa. \$6.00.

Circle 114 on Card Facing Page 49

Parts Service

Gerlinger is prepared to give materials handler owners, who telephone, wire or write, overnight service on parts anywhere in the nation. Three new depots will carry a complete stock of parts in relation to the number and types of material carriers and fork lift trucks in each territory. A two-color brochure announcing the depots, now is available.

Circle 115 on Card Facing Page 49

Van Trailer Design

Fruehauf recently published a 32-page booklet covering the subject of Volume Vans, entitled, "Proof by Performance." The booklet contains information and case histories on new design van trailers regarding increased cargo without exceeding legal length and weight limits.

Circle 116 on Card Facing Page 49

Bulkhead Anchors

The bulkhead "Jiffy" anchors, described in a release issued by The Crowe Engineering Co., are made to last indefinitely. They are claimed to withstand impact of 7 to 9 mph protecting 20,000 to 25,000 lb, without damage to bulkhead or contents. The anchors are easily attached and removed.

Circle 117 on Card Facing Page 49

Building Construction

A new, 28-page illustrated catalog, describing a system of standardization in building construction, has been published by Luria Engineering. The catalog presents a description of the company's new "F" buildings—a versatile series of flat-roof structures. Structural materials, optional features, as well as other building series, also are included.

Circle 118 on Card Facing Page 49

Form Coating

This 6-page folder, released by Stonhard, describes the company's form coating product, a scientifically developed liquid resin. It is claimed to be more economical than penetrating bases or special lacquers. The coating cures to a solid surface film, producing a tough, protective cover.

Circle 119 on Card Facing Page 49

Engineering Booklet

A new completely revised engineering and application booklet, has been issued by Cleveland Crane. Stresses developed in various type tracks used for overhead materials handling systems are described, as well as the problem of track peening and its solution. Principal components data also is presented.

Circle 120 on Card Facing Page 49

AFTER a long wait, the CAB decision to grant a five-year certificate to Seaboard & Western Airlines for freight-only services across the North Atlantic was approved by President Eisenhower this summer.

Approval on Assumption

The Board's decision to grant this temporary certificate was based on a number of interesting interdependent assumptions.

It was held that the operation will be a success *if* the existing freight market can be at least trebled by a largely unidentified pool of additional cargo which is thought to be "immediately available"; *if* the proposed operations can be conducted at the lowest unit operating costs ever achieved for comparable equipment; and *if* the new carrier is able to effect drastic reductions in rates. These assumptions are, however, unfortunately based not on facts but on surmise and conjecture far removed from reality. They rest upon speculation and ignore historic cost and traffic experience.

The Board seems to be assured that there will be an immediate increase in transatlantic freight tonnage from 17 million pounds to over 62 million pounds. They give no weight to the fact that existing competitive services, both U. S. and foreign airlines, and the freight capacity provided thereby not only have been sufficient to meet the normal historic growth of traffic on the route proposed, but have supplied a large reservoir of available cargo space on combination as well as all-freight aircraft to accommodate expansion.

In its discussion of the case, the majority of the Board conceded that the freight potential contemplated would not appear and could not be exploited successfully unless the new all-freight operations could be conducted at costs even lower than those experienced in the domestic cargo field. They seem to rely on Seaboard & Western operating more economically than the domestic all-freight carriers who have had more than five years of experience in operating all-freight aircraft domestically;

Air Freight Across the North Atlantic

The author questions the wisdom of a recent CAB decision granting a temporary five-year certificate for freight-only service to Europe

By John H. Frederick
DA Transportation Consultant

and that it can operate at lower cost levels than those attained by certain other air lines in their domestic operations which utilize the identical aircraft used by the new operator.

The Third If

But this is not all. A high freight potential and a low level of costs seem not to be enough to justify additional freight services. The remaining basic assumption in the Board's opinion is that, even *if* there is a freight potential and, *if* the costs forecast can be attained, there is no room for another freight carrier unless that carrier can accomplish reductions in international air-freight rates, which, according to the record in this case, would have to be sufficiently lower than existing rates to cut the present freight yield to our United States Flag carriers in half.

In other words, the Board finds a tremendous cargo potential exists *only if* the precipitous rate reductions and the other assumptions already referred to are attainable.

In justification of this situation the Board adopts a peculiar position in light of its responsibilities to provide an economically sound air transportation system which

encompasses the interests of other carriers, investors and shippers alike. It makes this statement:

"The CAB is satisfied that there is enough air freight potential for transatlantic service to warrant this certification of an all-cargo carrier for a temporary period, even though the amount of such potential cannot be precisely stated. It is quite possible that a newly certificated all-cargo operator may not attain all the traffic which it anticipates. If this should happen, the carrier might have to reduce the contemplated number of schedules or seek to effect greater economies. It is also within the realm of possibility that scheduled all-cargo service by an independent carrier might not prove to be economically feasible. Since the service will not be subsidized, it becomes a matter for the new carrier and its shareholders to determine whether as a matter of business judgment it desires to venture its capital in this enterprise."

The authorization of potentially uneconomic services on the ground that the new operator is the only one affected is not consistent with the Board's duties under the Civil Aeronautics Act, and seems to

(Please Turn to Page 86)

Modern Traffic Department Series—Part VII

Cooperation—Key To Good Traffic Management

The coordination of transportation activities with administration, manufacturing, purchasing, sales and other departments, has become one of the outstanding principles of effective traffic administration

THE Stanley Works believes firmly in the importance of traffic management. Its traffic department dates back prior to 1900. Before 1910, traffic work was handled by the treasurer of the company, along with his other duties. Since that year, there has been a full-time traffic manager.

The traffic department now is headed by a general traffic manager who reports directly to the president of the company. Besides his executive and administrative duties, he attends hearings and various meetings where matters of transportation importance to his company may arise. In addition, he originates and maintains good contacts with carriers, warehousemen, and others; so essential to successful traffic management today.

Under the general traffic manager are four assistant traffic managers with functions divided as follows:

Assistant Traffic Manager (and Staff of five):

Handles all rate and classification matters.

Handles rate statements and correspondence pertaining to clas-



By J. M. Stuart

*General Traffic Manager
The Stanley Works, New Britain, Conn.*

as told to

**John H. Frederick
DA Transportation Consultant**

sification of goods, rates, weights or extensions.

Handles routing and combining shipments to make truckloads or carloads, except regular pool cars.

Checks new tariffs and supplements for changes.

Files new supplements and new tariffs.

Orders new supplements and tariffs when necessary.

Checks over ICC and state PUC dockets, also dockets from rate bureaus and associations.

Checks all transportation bills

for proper rates, weights and extensions, and OK's such bills for payment.

Handles overcharge claims, corrections on bills of lading and freight bills, as well as refunds at carrier freight stations.

Assistant Traffic Manager (and Staff of four):

Handles pool cars, including their routing.

Handles personnel transportation, and hotel reservations.

Handles loss and damage claims of all types, OS&D reports, tracers, expediting and insurance.

Handles general correspondence for the department, various notices relative to embargoes, strikes, etc.

Keeps car and tonnage records and makes daily, weekly, monthly and annual reports.

Collects refunds from carriers on unused tickets.

Superintends the movement of employees' household goods.

Assistant Traffic Manager (and Staff of two):

Attends to all export and import traffic matters.

Assistant Traffic Manager (and Staff of six):



An aerial view of The Stanley Works, New Britain, Conn.

Supervises all private carrier operations and company cars.

The Stanley Works believes that its traffic department "buys transportation," obtaining the most for its transportation dollar, just as the purchasing department does for its material dollar.

Only by keeping constantly on the alert can the expenditure be kept as low as it is; considering that in a single year some three hundred separate carriers are used to transport the company's products from factories, branch plants and warehouses to customers' places of business. Not only is a close watch kept on rates and ratings but service also is under close scrutiny to afford customers the best time-in-transit possible by the route selected.

Cooperative Functions

The Stanley Works traffic department is not merely concerned with technical transportation detail. Its job also is one of coordination and cooperation with many other departments of the company.

Traffic work in this area encompasses an extensive list of duties, all of which relate to transportation but may be only indirectly concerned with the daily movement of freight; or which may involve no more than serving in an advisory and service capacity for other departments. But all these activities result in increased sav-

ings and improved service. Following is an outline of the cooperative plus functions of the Stanley Works traffic department:

Sales Department

Quote freight rates and furnish rate statements for all our plants and divisions.

Provide expediting and tracing service.

Develop pool car possibilities.

Route via most economical method.

Assist customers on claims and other problems.

Obtain rate and classification adjustments.

Make rail, airline and hotel reservations.

Arrange for moving of sales personnel.

Handle export forwarding matters.

Secure commodity rates to points where there is sufficient tonnage.

Advise invoice department regarding proper freight and truck rates so they can charge back differences where necessary.

Operate fleet of trucks to save on transportation charges and to render better service to customers.

Check into warehousing cost when requested to do so.

Prepare studies for an improved distribution system.

Supervise weight agreements with carriers.

Arrange ferry car service.

Provide rate information as to changes that would affect the distribution plan.

Purchasing Department

Furnish routes to be placed on purchase orders on special shipments. (Other shipments are routed "cheapest way.")

Advise on quantities to buy to protect the lowest charge when requested.

Quote competitive freight rates.

Secure lower freight rates on large movements of inbound material.

Expedite and trace urgently needed materials.

Arrange "charge backs" to suppliers who do not ship cheapest way.

Shipping Departments

Reissue carriers' tariffs in a simple plant tariff as a guide to shipping clerks.

Provide full classification descriptions for use in preparing bills of lading.

Establish best bill-of-lading form.

Obtain adequate car and truck supply.

Supervise consolidation and pooling of shipments for direct routing or stop-off in transit movement.

Straighten out discrepancies where cartons are marked wrong or forwarded in the wrong car or truck.

Straighten out errors made by railroads or trucking companies in the handling of shipments.

Route shipments.

Manufacturing Departments

Suggest improved methods of shipping materials.

Advise on package specifications.

Advise on materials handling equipment.

Obtain adequate car and truck supply.

Expedite and trace raw materials to keep production lines operating continuously.

Haul materials intraplant and intercity where motor trucks are needed.

(Please Turn to Page 91)

Remington Rand's Robot-Kardex has a push-button type selector which permits mechanical selection of any card in a matter of a few seconds



Mechanical File Yields Tighter

FOR a number of years, we have maintained the inventory records of our wholesale mill supply business in a visible card index file. The advantages of this visible technique are well known. On our average stock of some 30,000 items, any other method would have been totally unwieldy and almost unworkable.

System Growing Pains

In 1950, our visible card index file got out of hand. Increasing numbers of items required more cabinet space, and the posting of entries got farther and farther behind. On the first count, we found we required more office area for the physical housing of the inventory control. This would have been a serious inconvenience. In the second phase, we had definitely exceeded the work capacity of our file operator, and a second

employee was needed. Again, we would be up against the problem of space.

A trip was arranged into the industrial centers of New York State, to examine the inventory control procedures used by other mill supply houses with problems similar to our own. I interviewed executives of companies like ours, and saw our identical operations being performed in an obviously speedier, more efficient manner.

Mechanical Aid

These other firms were using a mechanized visible card index file; the same system we used, but in modern mechanical dress. The operators sit at writing positions and touch electrical controls that bring the index file slide to them.

In executive opinions, and the opinions of employees working on the records, this mechanized sys-

tem was the complete answer to our problem. By eliminating the need for hiring an additional employee, the new equipment would pay for itself in less than two years in salary saved. In addition, we would avoid the need for more office space with its accompanying cost and inconvenience.

The inspection trip brought added benefits. We saw how easy it was to include essential buying information on the cards, thus making the file do double duty. Procedures of other users pointed the way to redesign of our forms for greater convenience and utility.

Slow-Mover Control

For example, one of the contributing factors to our need for more space was the number of slow-moving items, records of which took just as much room as



By Lewis E. Smyser

Controller, Fulton, Mehling & Hauser Co., York, Pa.

Switch from manual system to mechanized visible card index file gives faster, more accurate, and more up-to-date inventory control — eliminates the necessity for hiring extra clerical help and for renovating to gain additional office space

Inventory Control

the faster-moving high-demand numbers. About 6,000 of our 30,000 stock items fall in this classification.

Previously we had handled this situation by using one card for two items. This did not prove practical. Invariably the spaces for one item were filled long before the other, so that a great deal of unnecessary copying onto new cards had to be done.

Our new slow-mover cards are die-cut for the insertion of index forms. This permits keeping three separate, integral records in one file pocket. No tedious copying is needed, and a total of some 4,000 file pockets are eliminated.

Split Card Advantage

Periodic renewal of cards was further reduced on normal stock items by adopting a split card in the upper file pocket. One portion

is for the purchase order record and one portion for sales recap by months and quarters. One side of the recap card lasts for three years. During this period about six of the purchase record cards may be used.

By including factory packaging and shipping weight information on the sales recap card, buyers' work was made easier. The buyers do not have to look up this data separately, or compute it on every order. In addition, orders can be written to take greatest advantage of freight allowances and economical shipping weights.

Back-Order Insert

Another innovation was the adoption of a new back-order insert card. On this, date of the order, customer, order number, and quantity are entered. Then, if we get incomplete shipments,

we are able to take care of our back orders in strict, fair rotation. This makes for better customer relations and more orderly conduct of our business. Slipped into the visible edge, the back-order card cannot be overlooked by the operator, and the status of all back orders can be reviewed quickly by buyers.

Reclassification

In the process of working in our mechanical visible card index file, we rearranged many items. Formerly classification was by product only, but we have found it more practical to arrange the record by major lines and sources. The buyers prefer this because it facilitates making up shipping weights on orders, and permits spot review of a line each time an order is written.

When stock is at the indicated minimum point, the file operator sends a memo to the proper buyer. He reviews the complete line automatically before ordering.

System Change-Over

In changing over to the mechanical system and adopting new forms, we decided to incur no additional expense. Rather than employ outside help to get the improved system off to an instant start, it was our thought that there would in the long run be better control, more uniformity, and greater efficiency if the changeover was handled by regular employees, and each new step tested in use as it was applied.

Today our inventory figures as shown are posted up to date. With the improved forms and additional information, our records are much more comprehensive, and thus much more useful, than ever before.

Posting is faster and easier. Because the operator sits in a comfortable writing position and does not have to keep moving, human error is substantially reduced. The work is much more accurate, and employee morale is better.*

Scheduled S/R Operations Lead to Lower Costs, Rates

A shipper should plan and schedule shipping and receiving operations and coordinate them with his carriers. In this way he can save labor, make better use of facilities, help the carriers provide better service

WHAT the shipper does can make the difference between profit and loss for the carrier. The carrier's operations have an equally direct effect on the shipper. The two groups have much in common.

The shipper's objectives are lower freight rates and better service. The carrier's objectives are a satisfied customer and a reasonable profit, at rates low enough to be equitable and competitive. Rate structures are of concern to both shipper and carrier. They are complex. But, in the final analysis, rates must be tied to costs. To reduce rates, you must first reduce costs.

Common Objectives

Shippers and carriers, therefore, have the same three objectives—lower costs, better service, and lower rates. The problem of how to attain these objectives cannot be solved by carriers alone. It cannot be solved by shippers alone. It can be solved by carriers and shippers together.

Many improvements can be made in shipper and carrier operations. One improvement is universally needed and promises much. This is a recommendation primarily for shippers, but they can carry it out only with the cooperation of carriers.

By Neil Drake

Partner

*Drake, Startzman, Sheahan and
Barclay, New York, N. Y.*

The shipper must plan and schedule his receiving and shipping operations, and coordinate them with his carriers. By planning and scheduling, he can save labor, make better use of his equipment and facilities, and at the same time help the carrier make better use of his. Both will reduce costs, and lay the foundation for lower rates.

To stimulate cooperation between shippers and carriers, we have made several recommendations to both groups. (See box on opposite page.)

Confusion and Delay

Most receiving is done in the morning; shipping in the afternoon. First the receiving dock is swamped, then the shipping. At certain hours the men have little to do, then they have too much, resulting in overtime. Docks become congested and the work slows down. The truck spots all

are taken, so drivers have to wait.

To correct this, spread the work over longer periods. Stabilize the workload so there is a flow of freight moving in and out across the docks. Try to keep that flow constant. Try receiving in the afternoon as well as the morning. Have some of the shipments ready for pick-up in the morning. Do not receive and ship exclusively around the first and 15th of the month.

Whenever activity is concentrated within a few hours of the day, or one day of the week, or a few days each month, the entire operation is geared to handle those peaks. When the peak is past, there is some slack in the labor force. By knocking off the peaks and leveling out the activity, you can save on labor, equipment, and space.

You may not intend to receive or ship only four to five hours a day, but unless you schedule your operations and coordinate the schedule with your carriers, the pick-up and delivery driver will just naturally come in during those restricted periods.

Planning Illustration

Most plants prepare and assemble orders in the sequence they are received from the mail room or order editors. The theory seems

EDITOR'S NOTE: Mr. Drake's remarks are excerpted from a recent address before the Middlewest Shipper-Motor Carrier Conference, at Omaha, Neb.

The Road to Lower Costs, Better Service, Lower Rates

What the Carrier Can Do

1. Work more closely with shippers at the conference level.
2. Establish working arrangements with shipping and receiving departments.
3. Schedule large deliveries to avoid delay at receiving docks.
4. Train salesmen in all phases of operations.
5. Set up a consolidated pick-up service.

What the Shipper Can Do

1. Improve facilities and lay-out, including handling methods.
2. Mark shipment legibly and prepare readable freight bills.
3. Plan and schedule shipping and receiving in coordination with carrier.
4. Segregate all freight by carriers.
5. Pack in units that one man can handle.

to be that orders should be taken on a first-come-first-served basis. Shipments are prepared and assembled in the shipping room without regard for the carrier who is to move them to market. Therefore, no carrier's load is complete until the middle or late afternoon.

Assume that the order preparation and shipping operation is geared to handle 100 orders a day, involving 10 carriers. Not until every order is prepared and assembled can any carrier be called in to make a pick-up.

You can, however, establish positive control over the sequence in which orders are prepared. First, route the orders, then sort them by carrier. As an example, process shipments for one carrier by 11 o'clock, the second carrier by 12 o'clock, third by 1 o'clock, fourth by 2 o'clock, etc. This procedure allows you to schedule the carriers on a graduated basis.

Recently we made a study of handling and storage in production, as well as the warehouse, receiving, and shipping at a large manufacturing plant. In the shipping department we found these conditions: The company was served by about 14 trucks a day. All departed from the dock about 5 o'clock. Truckloading was concentrated, of course, in the afternoon. Dock space was congested. Many loads were handled simultaneously, so supervisors and crews were spread thin. Trailers were spotted long before they

were required. Finally, the amount of work accomplished per man-hour was low.

After an analysis for three weeks, it was recommended that one regular and one on-call carrier be scheduled every hour. A four-hour cycle was set up. Four hours before the carrier is to pull away from the dock, all orders for that carrier are cut off. Two hours are allowed to complete picking, packing, and paperwork. Then the trailer is spotted and loading begins. Two hours are allowed for loading. By the end of the four-hour cycle the trailer is ready to go.

Tangible Improvements

The plant noted five improvements after two weeks of operation:

1. Because of the two-hour allowance for order preparation, the workload could be scheduled better and carriers called in advance.
2. Trucks were loaded on time.
3. Congestion on the dock and in the approach was eliminated.
4. The operation was easier to supervise, because fewer carriers were worked at the same time.
5. Overtime was reduced.

The procedure for planning and scheduling should provide for good communications with carriers. Coordinate your schedule with the carrier so he can make plans to come in on your timetable. Be sure to notify him if you have any special requirements.

Operating in accordance with a

plan and a timetable has a cumulative effect. When the shipper knocks off the peaks and stabilizes his work, the carrier can then stabilize his.

To help the shipper visualize the effect of scheduling, following is a review of a 24-hour cycle in a typical intercity motor carrier terminal.

After midnight the terminal is a beehive of activity. In-bound loads of freight are arriving from other cities. Between midnight and eight in the morning this freight must be unloaded, checked, sorted, and loaded on delivery trucks by route or area. Between seven and eight o'clock, local delivery drivers report for work, get their bills and instructions, and set out to make their deliveries.

Drivers from every truck line in town arrive at your plant from 9 to 10 o'clock. Here we find the first concentration of delay—drivers waiting in line to get space at your receiving platform, or waiting for one of your receiving clerks to check in the shipments.

By about 11 o'clock, the average driver has completed his deliveries and is looking for pick-ups. Unfortunately, not many pick-ups can be made before 2 o'clock in the afternoon. So, in a chart of the driver's activity there is a valley where he accomplishes relatively little between 11.30 and 2 o'clock in the afternoon. Between 2 and 4.30 most shippers want to ship everything for the day. Again this causes a

(Please Turn to Page 88)

Canners Association Studies Physical Distribution

Industry experts discuss warehousing, materials handling, packaging and

PROBLEMS of physical distribution—including materials handling, warehousing, transportation, and packaging—are of major concern to the food industry.

This point was re-emphasized late in January when the National Canners Association, meeting at its 49th Annual Convention in Atlantic City, N. J., devoted a considerable part of its program to a study of distribution problems.

A group of industry experts outlined individual problems and their solutions for the canners in attendance. There follows brief excerpts of several of the papers presented at the Convention.

Take a Look At Your Warehouse

By Steele Labagh

*Director of Traffic
California Packing Corp.*

One of the phases of the food processing and distributing industry which is changing at a fairly rapid rate is the warehousing of canned foods.

Warehousing has not only become a major function for canners and distributors, but the high cost of transportation service has made it essential to accomplish it with carefully arranged planning.

In recent years, there has been a rapidly growing trend for the processor or distributor to assume more and more of the responsibility for warehousing. Instead of a

few orders a year, the buyer is anticipating his needs only on a short-term basis. This means that the canner is doing more and more of the warehousing.

Add this factor to the sharp increases in freight rates, and the need for efficient warehousing becomes a matter of survival. The proper program of warehouse spotting throughout the trade zone is vital in a narrowing competitive market. Thus, the policy on consolidating shipments and consolidation warehouses assumes critical importance.

Canners use a variety of warehouses in their storing and distributing functions. First of all there's the Plant Warehouse which is located right at the processing point and is generally used for primary storage only. Canners' warehouses located at central distribution points, or at points into which goods from a number of processing plants are funneled for redistribution, may be termed Consolidation Warehouses.

Of course, an integral part of distribution in our country is the Public Warehouse. Field Warehouses are not used infrequently today and represent public warehousing in the canner's own warehouse.

It is appropriate to ask just where the responsibility for warehousing rests in the average canned foods concern.

The current trend in the food industry is to place warehousing

under the traffic director, where specialized attention may be given to a problem of growing importance. From a subsidiary function, warehousing has become a major facet of the canning business. In many companies, a separate Distribution Department has been established to handle the goods from processing line to ultimate customer delivery. Actually, this is a very natural development since integration of the entire field of transportation within a company is dictated by needs of cost economy and efficiency. Freight charges, as a percentage of delivered cost, have increased sharply in recent years.

Approximately half of the companies involved in a random sampling of firms placed warehousing under traffic department control. Others had arrangements where traffic stepped out of the warehousing picture once the warehouse or warehouse site was selected. The logic of placing warehousing under the Distribution Division has been expressed by one authority as being based on the definition of storage as a transportation function since it is really "transportation temporarily arrested."

The Warehouse Itself

Of course, location is something that is studied carefully. An analysis of shipments, and a study of costs and freight rates for various locations is undertaken and the

Problems

transportation techniques

merits of these locations are evaluated. Customer convenience, ease of access, and in-transit privileges are examples of the many elements which also must be considered in choosing a site. The advisability of adopting systems stressing production area, consumption area, or secondary (in-transit) storage must be decided as a matter of basic policy.

Canners have learned in the past decade that a warehouse is not just another building. The design of the building is critical when it comes to applying the principles of automation, and even the most fundamental material handling techniques cannot be used if building design or layout are faulty.

Claim Prevention

The field of claim prevention is an excellent example of what enlightened warehouse control can accomplish. The care of a warehouse crew in loading a car might be given insignificant attention with the reasoning that a claim against the carrier can be filed covering damage. Of course, claims never pay for themselves in terms of customer good will or clerical work of preparing and filing them.

A progressive warehouse operator will cooperate with carriers in making test shipments, and such research naturally pays off for both parties. In our own operation, we are constantly undertak-

Quotes from the Canners

"The day is dawning when, by means of radiation preservation of foods, the canning industry will be in a position to add to their present challenges and take on extended business. This could well mean processing a sizable fraction of perishables that now are exposed to storage and distribution losses."—Col. William D. Jackson, *Chief of Research and Development, Department of the Army*

"I can see continued steady advances in the applications of the principles of instrumentation and a gradual evolution towards the performing of many of the manufacturing functions by technological methods. As advances are made in control of raw materials and process procedures become more and more of a science instead of an art, it appears that the food industry will inevitably proceed to the push-button factory which will result in better products at lower costs."—James B. Anderson, *H. J. Heinz Co.*

"Handling methods which may prove advantageous in one location may not lend themselves to efficient operation under different circumstances since each canning plant with its individual layout and packing schedule presents its own problems. Consequently, each plant must be studied by an experienced engineer familiar with all the accepted practices before the best arrangement for any particular location can be suggested."—W. A. Gueffroy, *American Can Co.*

"President Eisenhower's nine-point program for agriculture offers no nostrums or panaceas. Our farm folk want none. Rather, it is a sound, logical attack on our most urgent problem, the surplus. It strikes at both sides of the price-cost squeeze."—Ezra Taft Benson, *Secretary of Agriculture*

ing research on containers, loading patterns, fibre box stability, etc., in conjunction with both supplier and carriers.

Palletizing

The use of pallets in warehousing has been one of the most revolutionary advancements in the trend toward mechanized handling of stored goods, and of course the lift truck is coupled with the pallet in this regard.

Canned foods coming off the casing lines or non-palletized inbound shipments must be hand stacked if a warehouse is palletized. The cost of this operation, while bringing substantial subsequent savings, is heavy nonethe-

less. Several firms have come up with an answer, and while they are still being perfected mechanically, the automatic palletizer may soon be standard warehouse equipment.

Materials Handling

Two important papers covering the field of materials handling in canning operations were presented. Lyle Seaton, of Continental Can Co., spoke on "Raw Product Handling to the Cannery," and George Effertz, of Green Giant Co., spoke on "Influence of Plant Layout on Materials Handling." Both papers will be presented in more detail in a future issue of *DISTRIBUTION AGE*. •

Packers and Distributors Review Frozen Food Progress

Recent industry growth, plans for additional expansion, and study of operational procedures highlight the program as more than 3,000 delegates attend the National All-Industry Frozen Food Convention

AN INCREASE of 67 per cent in the production of prepared frozen food, from 1954 to 1955, as well as a consumer spending volume of \$261 billion in 1955 (double that of 10 years earlier), were included among the industry progress facts and figures reported at the National All-Industry Frozen Food Convention, recently held in New York.

Many prominent speakers were featured during the convention sessions, including F. D. Newell, Jr., president of the National Association of Refrigerated Warehouses. He told the packers and distributors that it would be more profitable for them to invest in cabinet space at the retail level—where the actual shortage of storage space exists—than to invest in additional warehouse construction. Newell also said that this move can cut distribution and handling costs as a result of larger deliveries, and increase sales and profits through greater volume.

Comparing the merits of public and private warehousing, Newell pointed out that historically, the refrigerated warehouse industry has not earned a very acceptable return on its invested capital, with earnings, on a replacement cost basis, bordering on the pathetic.

He recommended that the packers and distributors use complete cost figures in analyzing savings

to be realized through private warehousing. Also, he suggested that they consider what their return would be if a like amount of capital were invested in their prime of principal business.

Wayne Bitting, U. S. Department of Agriculture, remarked that the rapid growth of the frozen food industry, in doubling its production about every four years since World War II, has been due largely to an increase in new products whose production and sales increased rapidly, then tended to level off in a normal growth-curve fashion.

In 1946, frozen fruits and vegetables represented 60 per cent of the total frozen food production. Today, they have dropped to 20 per cent of the total production because of the increase in new products.

At present, frozen juice concentrates account for one-half of total production, with frozen poultry accounting for 14 per cent.

Emphasizing service, Bitting said, "Some customers may want only a drayage service while others want, in addition, a complete merchandising service. . . . Still others will want a warehousing and delivery service."

In presenting the annual report to the combined gathering, Sam M. Vogel, outgoing president of the National Frozen Food Distributors

Association, related that a bright future for the distributor, considered the keystone between consumers and processors in interpreting the one to the other, lies in the institutional field. Also, today's distributor has to have better procedures in warehousing, office management, and sales supervision.

George L. Mentley, retiring president of the National Association of Frozen Food Packers, cited as one major industry accomplishment the increasing number of mechanical refrigerator railroad cars. These now total 1,133 and will increase to more than 2,500 during 1956.

It was reported by Curtis Rogers, vice president, Market Research Corp. of America, that 92 per cent of all families in the United States shop in independent stores as against 72 per cent in chains, but that chains outdraw independents in dollar volume for frozen foods.

Advertised brands now account for 44 per cent of the frozen juice business; 60 per cent of the frozen vegetable business; and 70 per cent of the pre-cooked meat pies and prepared dinners.

Rogers also stated to the 3,000 major packers and distributors, "Advertising and promotion can be expected to play an increasingly important role in the future marketing of frozen foods." •



New Yale G-52 Gas Truck speeds unloading of hardware at Supplee-Biddle-Steltz Company warehouse.

BIG PHILADELPHIA WHOLESALER SOLVES PLATFORM TIE-UPS WITH YALE TRUCKS

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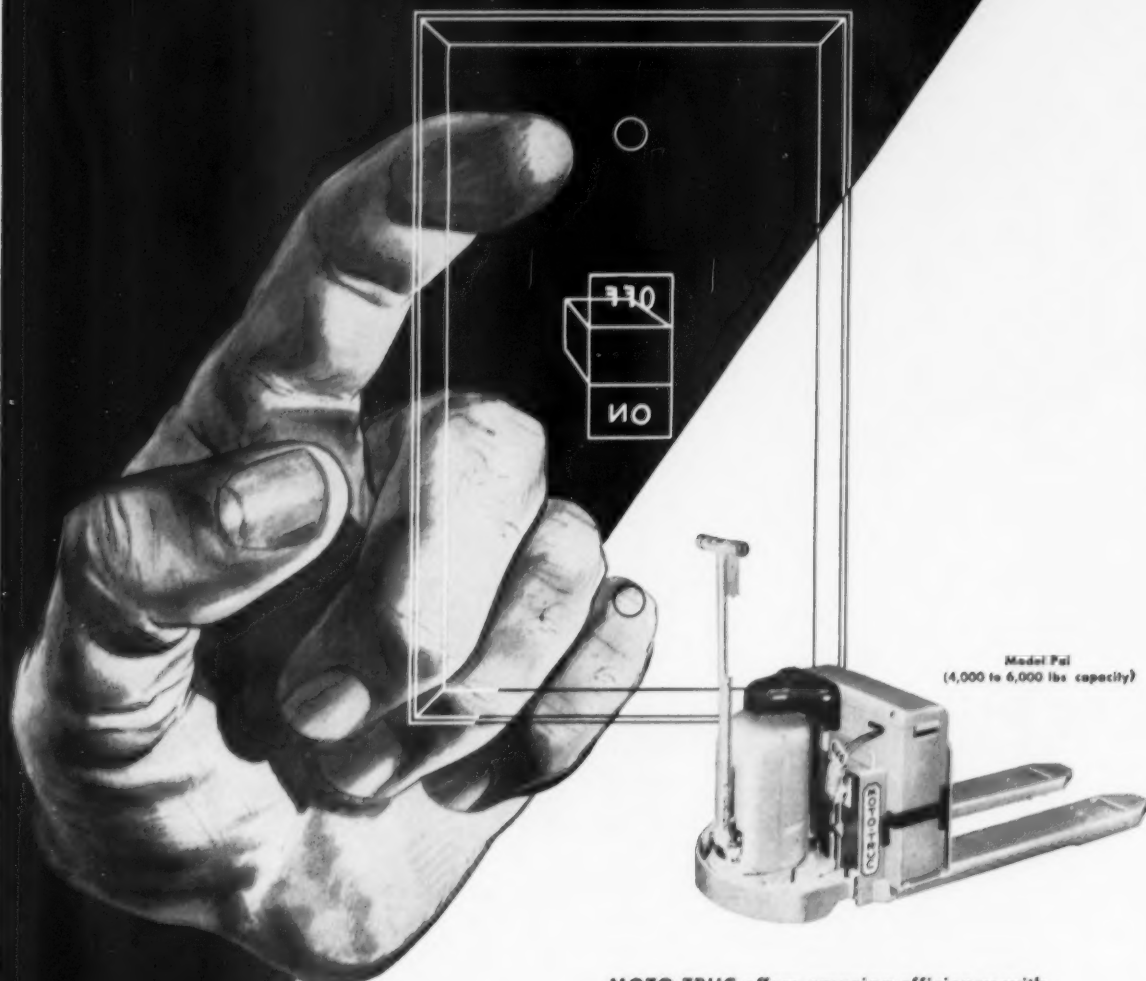
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Circle No. 10 on Card, Facing Page 49, for more information

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TWA AIR CARGO SHIPMENT LAUNCHED VIA OX CART!



TRUE ENOUGH...SHIPMENT FROM FARRUKHABAD ON GANGES RIVER IN INDIA STARTED TO CLEVELAND, OHIO, THE OLD WAY...BY OX CART. THE BLOOMFIELD COMPANY IMPORTED ENTIRE OUTPUT OF TOWN'S COLORFUL COTTON PRINTS...NEEDED THEM IN A HURRY TO MEET SPRING BUYING SEASON IN OVER 2000 RETAIL STORES. FROM BOMBAY SHIPMENT WAS RUSHED DIRECT TO U.S.A. VIA TWA AIR CARGO...THE MODERN, DEPENDABLE, LOW-COST WAY. KEEP TWA IN MIND. IT'S THE BEST BET WHEN- EVER SPEED'S A FACTOR. MINIMIZES COST OF INVENTORY IN TRANSIT, TOO.

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WESTERN GROWERS HAVE LONG USED THIS IDEA... AND REGULARLY SPEED FARM-FRESH FRUITS AND VEGETABLES DIRECT TO MARKETS IN MATTER OF HOURS VIA TWA AIR CARGO. ASSURES BETTER QUALITY... PERMITS REPLENISHING STOCKS QUICKLY... RESULTS IN FASTER TURNOVER. PHONE TWA ANY TIME.

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WHEN YOU WANT TO MAKE SURE YOUR COAST-TO-COAST SHIPMENTS MOVE ON SCHEDULE... CALL NEAREST TWA OFFICE AND ASK ABOUT SUPER-G BOOKED AIRFREIGHT. CARGO CONSULTANT WILL EXPLAIN THIS EASY, QUICK, SURE SERVICE.



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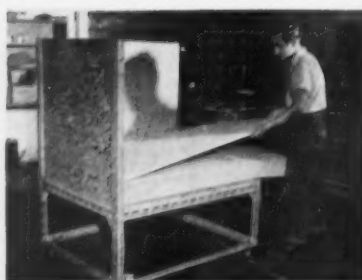
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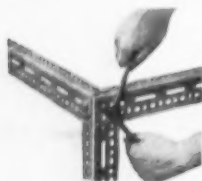
WORK TABLE



CONVEYOR

Easy to cut! Simple to connect! Reusable!
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DEXION Slotted Angle is easy to assemble. You can build any frame in minutes. This galvanized steel angle is strong and rigid . . . lasts indefinitely. No drilling or welding. No waste. Easily dismantled, DEXION can be reused to build any other frame. Only your imagination limits its use. DEXION is the perfect, low-cost framing material.



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DEXION SLOTTED ANGLE



Circle No. 11 on Card, Facing Page 49, for more information

DISTRIBUTION AGE

Why buy a truck in the dark?



*"Oh, kick me!" cries Merchant Neal,
In a posture hardly genteel.*

*He bought trucks in haste,
Then the costly fact faced,
That he'd missed the Dodge Dealer's Deal!*



If you buy a new truck after looking at only one make, it's like making a deal in the dark. A smarter way to buy is to "spotlight" real truck value—weigh and compare competitive claims with these Dodge truck facts:

Most standard V-8 horsepower of all leading makes— $\frac{1}{2}$ -ton through $3\frac{1}{2}$ -ton range. You'll make faster trips—get more work done!

Shortest turning radius. You'll maneuver in traffic, and park more easily.

Biggest cabs, with biggest wrap-around windshield. You'll enjoy more comfort, safer vision.

Highest payload capacities . . . pick-ups providing up to 22% more payload than others.

Prices down with the lowest.

Next truck you buy, don't deal in the dark. Turn a bright light on the facts. See Dodge before you buy.

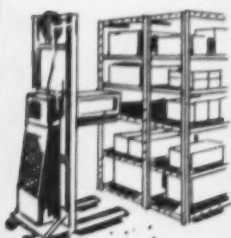
**GET THE DODGE
DEALER'S DEAL
BEFORE YOU DECIDE**

DODGE
Job-Rated
TRUCKS

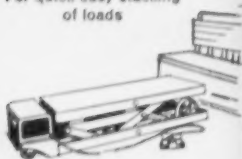
WITH THE FORWARD LOOK



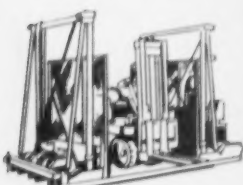
STRUCTO RACKING



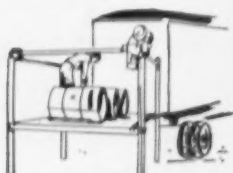
LIGHT DUTY LIFTER
For quick easy stacking
of loads



**"ELECTRAULIC"
LIFT TABLE**
For leveling sheet steel or dies
at shears or press.



"FOUR POSTER"
Electraulic lifter for heavy loads



LEVELER
Economical Model for
raising 6000 lb. loads up to 5 ft.

POWER TRUCK WORKS IN 3 FOOT AISLES

THE COLSON HANDLER

Lifts... transports 4000 lb. loads
Operates safely on low capacity floors
Carries 1200 lb. payload on a
2500 lb. elevator
Climbs 10% grades
Weight only 1000 lbs. to 1100 lbs.



This engine powered, rider type truck is built in low lift, skid platform models, pallet models and tractor models.

Gas engine power is now made practical by the Colsonomatic All Hydraulic Drive which greatly

simplifies the power train by eliminating both the clutch and the transmission.

The Hydraulic Drive also eliminates the friction brake system by slowing and locking the drive wheel hydraulically.

L-P GAS IS NOW OPTIONAL TO MINIMIZE FUMES.

RESULTS—Minimum investment. Lowest truck weight with full structural strength. Power truck savings with bigger payloads where you could never use trucks before.

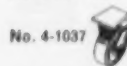
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Allis-Chalmers Fork Lift Trucks...



Allis-Chalmers Fork Lift Trucks with torque converter drive, like this one owned by an eastern cartage company, are particularly suitable where there are ramps to climb. The torque converter drive speeds handling, eliminates costly clutch slipping and engine racing.

stay on the job longer...

Reports of Allis-Chalmers Fork Trucks working thousands of hours without lost time are not unusual. Such records are not surprising, either, to those who know the long-life, low maintenance features engineered into these trucks.

Their rugged construction is typified by the

all-welded, automotive-type frame — strongest used. Double-reduction axle and heavy-duty, four-pinion differential lengthen service life. Precision-built mast is a welded high-strength channel. Such features as these add up to *more time on the job.*

get back to work faster

The Allis-Chalmers Fork Lift Truck is a serviceman's dream!

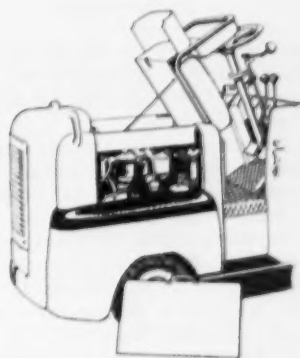
It takes only 22 seconds to strip for service. Lift off two side panels, tip seat forward, remove engine cowl by unscrewing two wing nuts — and everything is right there.

It takes only 22 minutes for two men to disassemble — right down to the bare frame! There are only 20 bolts and nuts to remove.

It takes only 30 minutes to change a clutch. To get at it, you simply remove the floor boards. Clutch plate is replaced without disturbing transmission or axle.

Ask your dealer to show you how Allis-Chalmers Fork Trucks make possible many bonus hours of low-cost operation.

In but 22 seconds, engine, carburetor, oil filler tube, oil filter, fuel pump, battery and ignition system — all are accessible for servicing.



ALLIS-CHALMERS, BUDA DIVISION, MILWAUKEE 1, WISCONSIN

ALLIS-CHALMERS



BH-6D

Circle No. 14 on Card, Facing Page 49, for more information

DA Materials Handling Primer—IX

5. Self-Loading Systems

By D. O. Haynes

DA Materials Handling Consultant

THE PALLET AND FORK-LIFT METHOD

In this section we shall discuss the various kinds of pallets which are utilized, in connection with fork trucks, to handle materials.

In subsequent sections, the several types of fork-equipped machines will be studied and described in detail.

In this section, the nomenclature used by the Wooden Pallet Manufacturers Assn. will be followed as regards the kinds of pallets its members produce. In its various publications, the Association covers certain standard types to which it has given Roman numeral designations. The same designations will be employed in this text, so that

the reader may know that a particular type, when so designated, is a standard one from the Association's point of view.

The various specifications given also are those recommended by the Association. But, it should be pointed out, these are purely minimum recommendations and are not limiting. A pallet can be made up to the user's own specifications. Indeed, many concerns who purchase pallets in large quantities have developed their own specifications, and some of these vary considerably from those set forth in the Association's Minimum Standards.

PALLET DEFINED

A pallet is a device for carrying materials, and is so constructed that it can be handled by fork-equipped, self-loading machines.

The two drawings are representative of the two basic designs for pallets—the Stringer Design and the Block Design. The purpose of the sketches is to indicate the component parts of these carriers. The functions of the various parts are described below.

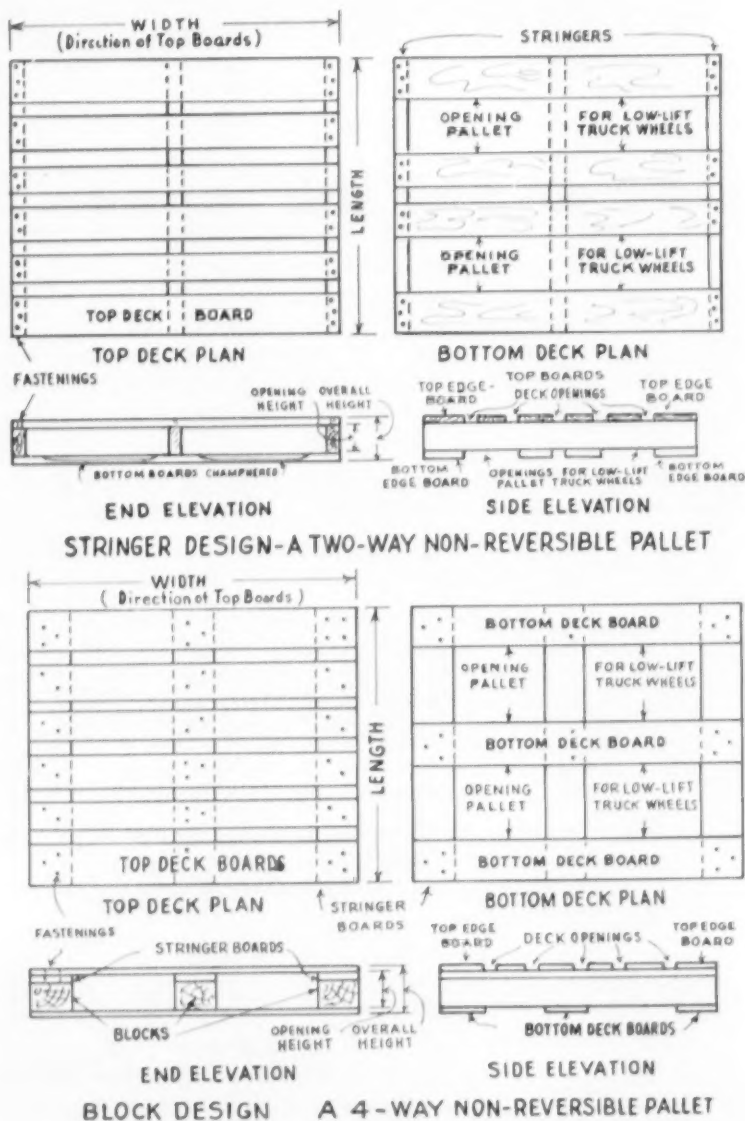
Conventionally, a pallet has both a Top Deck, which is the load-carrying surface, and a Bottom Deck. The Edge Boards of both decks are those at the two ends of the decks. Bottom edge boards may be chamfered to facilitate entry of low-lift fork wheels.

Stringers, or Runners, are members under the top deck, and serve as spacers to separate the two decks and to provide space for entry of forks or the arms of low-lift pallet trucks. They run the full length of the pallet and are perpendicular to the top boards.

In the Block Design, the stringers are replaced by Blocks, or Posts, which serve the same functional purposes as the stringers. There also are Stringer Boards between the top deck and the blocks which run perpendicular to the top deck boards. They act as a framework to tie the pallet members together.

The pallet is assembled with spaces or Deck Openings between deck boards; the various members being held together by means of Fasteners.

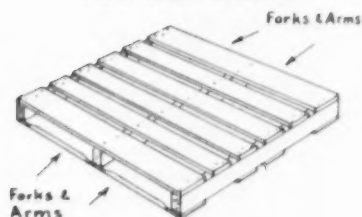
The Width of the pallet always is measured in the direction of the Top Boards; the Length perpendicular to the direction of the Top Boards (the length of the Stringers or the Stringer Boards, according to the design).



PALLETS

THE THREE MOST COMMON DESIGNS

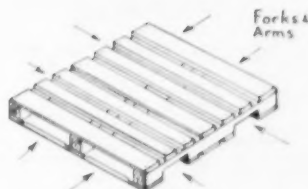
TWO-WAY DESIGN



A TWO-WAY PALLET

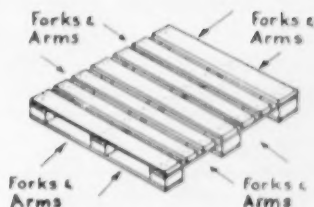
Pallets which permit the entry of forks, or of the arms of low-lift pallet trucks, from two sides only and in opposite directions.

FOUR-WAY DESIGNS



A NOTCHED STRINGER PALLET

Pallets which have four-way entry only with forks, and only two-way entry with the arms of low-lift pallet trucks.



A BLOCK PALLET

Pallets which permit four-way entry both with forks and with the arms of low-lift pallet trucks.

THE TWO STYLES OF PALLETS

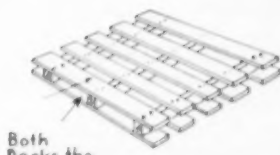
SINGLE FACE



A SINGLE FACE PALLET

A pallet which has only one surface—a top surface.

DOUBLE FACE



A REVERSIBLE PALLET

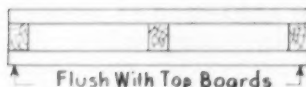
A pallet which has identical top and bottom decks. Goods may be stacked on either deck.



A NON-REVERSIBLE PALLET

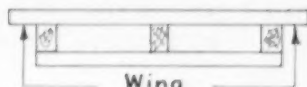
A pallet with top and bottom decks which have different openings. Goods may be stacked only on the top deck.

THREE CONSTRUCTIONS



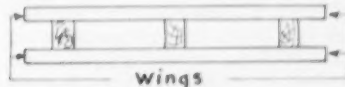
FLUSH STRINGER

A pallet with outside stringers, or blocks, which are flush with the ends of the deck boards.



SINGLE WING

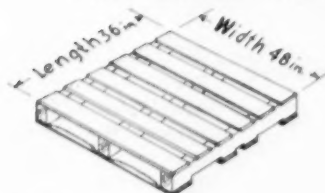
A pallet with outside stringers, or blocks, which are set inboard of the top deck but which are flush with the bottom deckboards.



DOUBLE WING

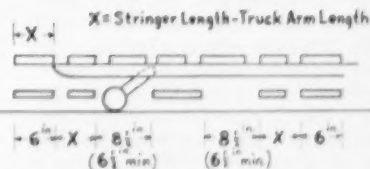
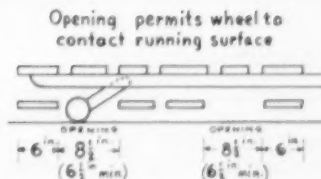
A pallet with outside stringers, or blocks, which are set inboard of both top and bottom deckboards.

NATIONAL WOODEN PALLET MANUFACTURERS ASSN. TYPES



A 36 in. x 48 in. PALLET

The size of a pallet is given by the dimensions of the Length by the Width, both stated in inches.






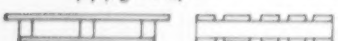
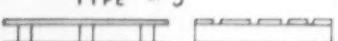
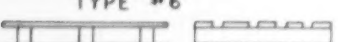
THE "WHY" OF THE OPENINGS FOR LOW-LIFT TRUCK WHEELS

In the drawings of the typical pallets on the first page of this section, openings for the wheels of the low-lift trucks were indicated. The above

drawings show how the wheels drop through these openings and make contact with the running surface.

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NATIONAL WOODEN PALLET MANUFACTURERS ASSN. TYPES

	DESCRIPTION	REMARKS
TYPE #1 	Single face, non-reversible pallet.	Used where a double-face pallet is not required with both low- and high-lift fork trucks. Popular in grocery and similar warehouses.
TYPE #2 	Double-face, flush-stringer or flush block, non-reversible pallet.	A general utility pallet for receiving, production, shipping and storing such items as boxes, cases, cartons, bags, bales, barrels, kegs, drums, etc.
TYPE #3 	Double-face, flush stringer or flush block, reversible pallet.	Where high-lift fork trucks are used. Reversible feature provides uniform surfaces. Especially useful uniform surfaces.
TYPE #4 	Double-face, single-wing, non-reversible pallet.	Can be used with slings for crane operations; also with the type of stacker which has outriggers that are sufficiently low to fit under the wings of the pallet and, thus, conserve space.
TYPE #5 	Double-face, double-wing, non-reversible pallet.	Combines sling-handling features with a pallet that gives a more completely surfaced bottom deck.
TYPE #6 	Double-face, double-wing, reversible pallet. Also known as a stevedore or cargo pallet.	Widely used in stevedoring and shipboard operations.

The illustrations shown above merely are representative of each particular type. All these types can be fabricated in more than one design. The prospective user must be sure to specify his choice of design when ordering a pallet—or, better yet, supply a detailed drawing with the

order. The opening in the bottom deck where low-lift equipment is to be used is particularly important, and the manufacturer of the machine should be consulted regarding the proper amount of space to accommodate his equipment.

LUMBER USED IN PALLET CONSTRUCTION

The U. S. Department of Agriculture has established groups of wood based on their physical properties. In general, those placed within a given group have approximately the same hardness. The NWPMA states that the woods within the four groups are acceptable, on a performance basis, for wood pallet construction according to the customer's requirements and the end use.

It can be assumed that those in Group 4 stand up longer than those in Group 1. However, military specifications include pallets made of both soft and hard woods. For example, MIL-P-16496 (S&A) is for: Pallet, Softwood (Hardwood Posts), 40 x 48 in., 4-Way, Nailed Construction, General Purpose. All the woods specified for the deck boards fall in Groups 1 and 2. The same is true of MIL-P-15943 (S&A) for: Pallet, Wood, 48 x 72 in., 2-Way, Stevedore, Cargo. On the other hand, MIL-P-15011A (S&A), specifies: Pallet, Wood, 40 x 48 in., 4-Way, General Purpose, which calls for woods which are all in Group 4.

SOME COMMON SPECIES OF WOOD ARRANGED BY GROUPS ACCORDING TO INCREASING HARDNESS

GROUP 1		
Aspen (Popple)	Cypress	Pine, Ponderosa
Basswood	Fir, Alpine	Pine, Red (Norway)
Buckeye	Fir, Balsam	Pine, Sugar
Butternut	Fir, Noble	Pine, White
Cedar	Fir, White	Redwood
Chestnut	Magnolia	Spruce
Cottonwood	Pine, Jack	Yellow Poplar
Cucumbertree	Pine, Lodgepole	
GROUP 2		GROUP 3
Douglas Fir	Ash, Black	Maple, Soft
Hemlock	Ash, Pumpkin	Sweetgum (Red Gum)
Larch (Tamarack)	Blackgum	Sycamore
Pine, Southern	Elm, White	Tupelo, Water
GROUP 4		
Ash, White	Hickory	
Beech	Maple, Hard	
Birch	Oak, Red	
Elm, Rock	Oak, White	
Hackberry	Pecan	

STRENGTH PROPERTIES—SOME COMMON SPECIES OF WOOD

SPECIFICATIONS REGARDING WOOD FOR PALLETS

Like all natural products, lumber is bound to have certain defects. When the wood is to be used for fine cabinet work, many of these faults could not be tolerated. On the other hand, appearance is not the important factor in a pallet, so that defects that do not materially affect the strength of the pieces are acceptable. There are certain well established, reasonable limits.

SOME DEFECTS PERMISSIBLE, OTHERS NOT

The lumber must be sound, square edged, free from decay and knots with an average diameter greater than one-third of the width of a piece. Season checks, pin-worm holes, mineral streaks, stain, wane or barky edge (not greater than one-fourth the thickness and one-sixth the width of any piece) do not affect the structural strength of pallets and are considered to be permissible defects. In general, however, no piece should contain any other defect or combination of defects which would materially weaken the strength of the piece or hinder its proper fastening.

In the last analysis, the safest bet for a purchaser is to select a reliable, experienced pallet manufacturer. He is well qualified to advise his customer as to the kind of pallet that will best fit any particular need.

MOISTURE CONTENT

From the standpoint of the average pallet user, the matter of moisture content is not serious. However, NWPMA and military specifications set up standards as follows:

AVERAGE MOISTURE CONTENT

MIL-P-15011A

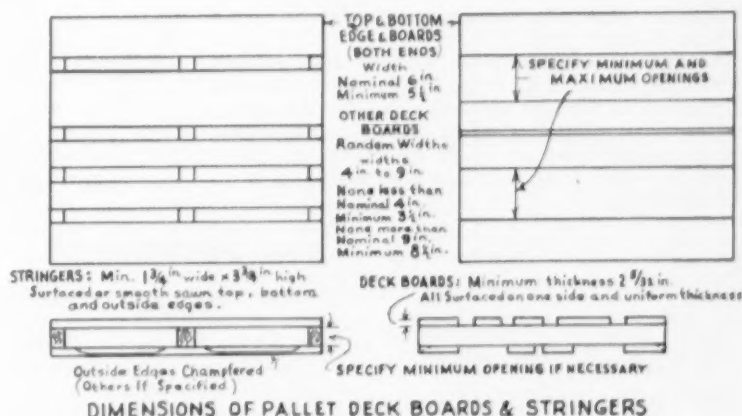
Pallet Grade	All Boards and Deck Stringers	None Greater Than	Other Stringers Less Than
	Per Cent	Per Cent	Per Cent
A	19	22	22
B	27	32	32
C	32	40	37
D		Any Degree of Seasoning	

NWPMA

Pallet Grade	Deck Boards	Stringers or Blocks
"AA"		
Group IV Wood	25 Per Cent	Any Degree
Groups I, II, III	20 Per Cent	Any Degree
"A"		Any Degree of Seasoning

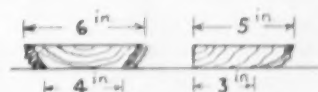
SOURCE: "WOOD HANDBOOK"—U. S. DEPT. OF AGRICULTURE

Commercial Name of Wood		Moisture Contents (%) After Wood Has Dried	Impact Bending Fibre Stress of Proportional Limit Lbs./Sq. In.	Static Bending		Hardness Load Required to Imbed a 0.444 Ball to 1/2 Its Diameter		Weight, Lbs. per Cubic Foot
				Fibre Stress at Proportional Limit Lbs./Sq. In.	Modulus of Rupture Lbs./Sq. In.	End	Side	
HARDWOODS								
Ash, Commercial White	12	17,000	8,900	14,900	1,680	1,280	41	
Beech	12	18,000	8,700	14,300	1,590	1,300	43	
Birch	12	20,000	10,100	16,700	1,950	1,340	44	
Hickory, Pecan	12	20,900	9,100	16,300	1,930	1,620	40	
Maple, Sugar	12	20,600	9,500	15,800	1,840	1,480	44	
Oak, Red	12	17,000	8,400	14,400	1,490	1,300	44	
Oak, White	12	17,400	7,900	13,900	1,420	1,330	47	
Walnut, Black	12	16,400	10,500	14,600	1,080	1,010	36	
SOFTWOODS								
Douglas Fir (Western)	12	12,100	8,300	9,600	740	630	34	
Fir, Commercial White	12	11,200	6,300	9,300	710	460	27	
Hemlock, Eastern	12	10,700	6,100	8,900	610	600	28	
Pine, Northern White	12	9,500	6,000	8,900	600	400	25	
Pine, Southern:								
Yellow, Shortleaf	12	13,600	7,700	12,600	780	690	36	
Yellow, Longleaf	12	15,400	9,300	14,700	920	870	41	
Spruce, Eastern	12	11,400	6,500	10,100	630	490	28	
Cottonwood, Eastern	12	7,300	5,700	8,500	580	430	26	
Cottonwood, Northern Black	12	9,600	5,300	8,300	540	390	24	



IMPORTANT DIMENSIONS

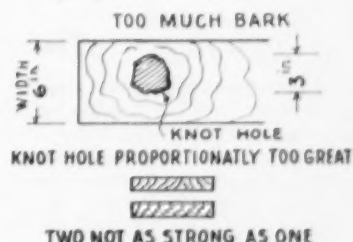
The sketch indicates the standard dimensions set up by the NWPMA. They can be varied, but then the pallet becomes a "special."



TOLERANCES

Nominal lumber sizes indicate the dimensions before the wood is surfaced (dressed). In most instances, a reduction of 1/4 in. per surfacing should be taken into account in figuring on a pallet.

The commercial tolerances allowed in the overall length and width of a pallet are 1/4 in., plus or minus. However, where minimum dimensions are specified, no minus tolerance is allowed.



NUMBER OF STRINGERS OR BLOCKS

As to the minimum number of stringers or blocks to be used in pallet constructions, standards have been established by the NWPMA. Their figures are given in the table at the right.

As in all such matters, however, "specials" can be constructed to any specifications. The standard specifications have been set up for average conditions.

Deckboard Length	Number of Stringers	Number of Blocks
Not Exceeding 24 in.	2	6
25 in. to 48 in., Inclusive ...	3	9
Over 48 in.	3	9



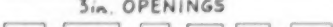
NOTE: If load exceeds 2,000 lbs on a deckboard over 48 in., a Special Purpose Pallet is indicated.

THE IMPORTANCE OF PROPER DECK OPENINGS

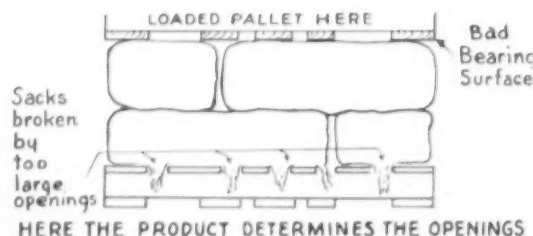
Two factors must be considered in specifying the size of deck openings. One concerns cost; the other, the product to be handled.

Of course, the cost of a pallet includes other elements than the cost of the wood used in its construction. However, it is an important percentage, and any saving in lumber is reflected in lower first cost. On the other hand, when the openings are quite large, the amount of lumber imposed on a pallet is that due to elevating it on two relatively wide-spaced, narrow forks. It must be strong enough to stand up under this and other stresses; such as from being dropped by workers, and nesting on uneven surfaces.

The product is the other factor to be taken into account. This is particularly true if the surfaces of the product handled will be damaged by resting over large openings. Non-reversible pallets should be studied carefully from this standpoint. If there is any doubt, a sample pallet should be ordered and pretested with the items to be palletized.

1 in. OPENINGS	APPROXIMATE LUMBER OPENINGS	
	87 1/2 %	12 1/2 %
	79 %	21 %
	69 %	31 %

SMALLER OPENINGS MEAN MORE LUMBER



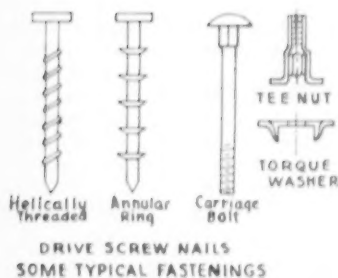
THE FASTENINGS



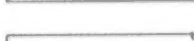
The fastenings for their pallets are specified by the NWPMA. In addition to the regular drive-screw nails recommended by them, there are certain patented fastenings.

Countersinking is advisable (1/16 in. deep) but, in any case, all nails should be driven flush.

Grade AA pallets, made of woods from Groups III and IV, have pre-drilled holes to prevent splitting.

Most pallets are assembled by nails. Bolts are used—two in the edge-boards, one in the others—where a heavier-duty pallet is required.



	3 1/2" x 5 3/8"	2
	5 1/2" x 7 3/8"	3
	7 1/2" x 9"	4

NUMBER OF NAILS SPECIFIED

THE U. S. NAVY'S PALLET PROGRAM

No discussion about pallets and unit load handling would be complete without mentioning the exhaustive work which has been carried on by the Research & Development Facility of the U. S. Navy, Bureau of Supplies & Accounts. For the past several years, the Facility's Chief Engineer, Chester B. Heinrich, has directed many projects covering pallets, storage methods, and other matters concerned with improving materials handling methods.

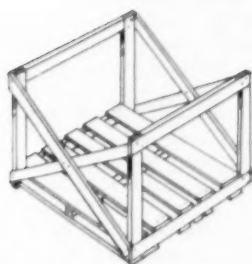
The work has been done in close cooperation with manufacturers of equipment and executives in industry. Demonstrations of results have been made frequently to

groups interested in the particular project.

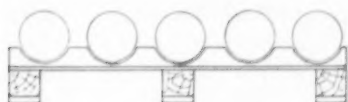
Reports on many of the projects have been "declassified" and made available to industry. They have been very real factors in the advances made in materials handling techniques by the Services and civilian organizations.

During World War II, the Navy had standardized on a 48x48-in. pallet. Intensive studies and tests made by the Research & Development Facility have resulted in the adoption of a 40x48-in., 4-way pallet. This size was selected as standard because it is the one best suited to both freight-car and over-the-road truck shipments.

THERE ALSO ARE MANY "SPECIAL" WOODEN PALLETS



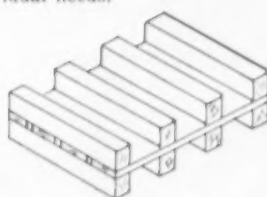
PICTURE FRAME PALLET



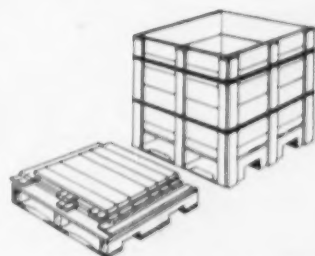
A 4-WAY PALLET FOR CYLINDERS



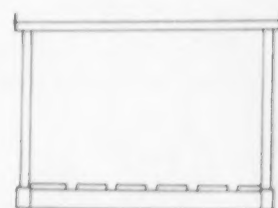
DUNNAGE USED
TO PERMIT MULTIPLE TIERING



A TAKE-IT-OR-LEAVE-IT PALLET



COLLAPSIBLE BOX PALLET

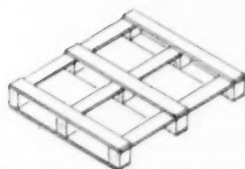


MANY KINDS OF
STACKING PALLETS

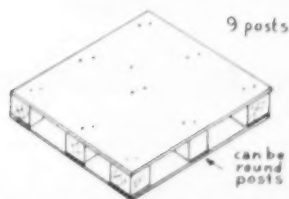
The wooden pallets we have discussed here in some detail have come to be more or less standard. The specifications cover "minimum" requirements. In many instances, they are changed to meet the customer's special needs. Then they become "Special Purpose" pallets.

But, in addition, there are countless other specials. All pallet manufacturers offer such items as "picture frame" and box pallets. It would be impossible to illustrate all these here. A few are shown as examples of the kinds available. Makers will develop a special to meet the customer's individual needs.

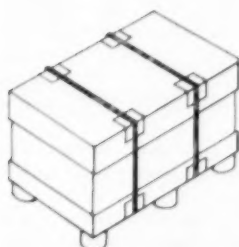
EXPENDABLE PALLETS—USE THEM AND FORGET THEM



ALL-WOOD ONE-WAY SHIPPER



CEDARBOARD DECK—WOODEN BLOCKS

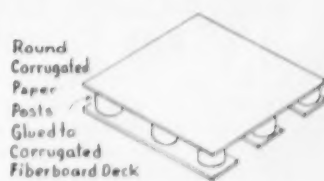


BOX-TYPE CORRUGATED PALLET

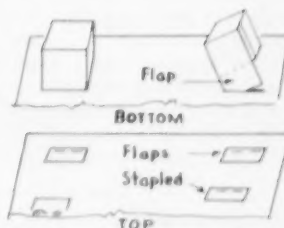
The present situation regarding freight rates for pallets (they carry the same rate as the commodity with which they are loaded and cannot be returned as "dunnage," with certain exceptions) in a great measure accounts for the development of expendable pallets. But a strong case can be made for other economies effected by shipping on expendable pallets. A paper presented before the November, 1950, meeting of the New England Chapter of the American Materials Handling Society, listed 41 sources of savings in making such shipments. Their cost is about one-third that of wooden pallets.

Investigations made into the subject of expendable pallets by the Research & Development Facility of the Navy have disclosed that, apparently, there is no such thing as a "general purpose" expendable pallet. These carriers are most satisfactory when they are tailor-made to fit the particular commodity for which they are designed.

The nearest approach to conventional wooden pallets are the lightly constructed, "skeletonized," all-wood types. Other types than the one shown have no posts. They are light, single-face pallets.



STILL ANOTHER ALL CORRUGATED PALLET

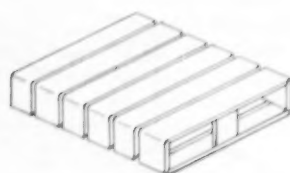


THIS ONE SHIPPED AND STORED FLAT

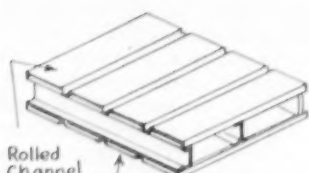
The various corrugated board pallets shown are examples of the wide range of constructions in which these carriers now are offered.

Expendable pallets are being used successfully for shipping corrugated flat stock and knocked-down corrugated containers. Multiwall bags of flour, starch, sugar, etc., and a wide variety of products in cartons also are handled in this manner.

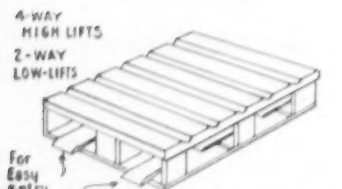
METAL PALLETS FOR THE ROUGH, TOUGH JOBS



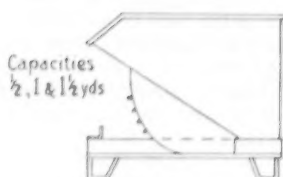
A CORRUGATED STEEL PALLET



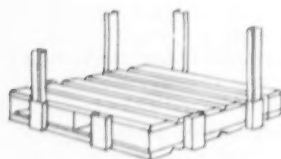
Rolled Channel Steel Decks
A NON-REVERSIBLE STEEL PALLET



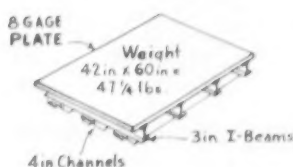
ANOTHER ALL-STEEL CONSTRUCTION



AN AUTOMATIC END DUMP



FITTED WITH POCKETS FOR STEEL STAKES



A LIGHT-WEIGHT PALLET-ALL MAGNESIUM

There is considerable difference in first cost between wooden and steel pallets. For example, a 40x48-in. wooden pallet costs between \$3.50 and \$4, delivered. A steel pallet of the same size will run about \$15. However, the picture is quite different when repair and replacement costs are considered. It has been estimated that, if approximately 40 loads a year are handled, the total wooden pallet cost will amount to about the same as for steel pallets. But, if 100 loads are handled per pallet per year, the total cost of wooden pallets—due to great maintenance and replacement costs for greater activity—will be about double that of steel pallets.

Where pallets are used actively day in and day out, as in shifting materials between production operations, and are not employed for long storage periods, steel pallets undoubtedly are more economical.

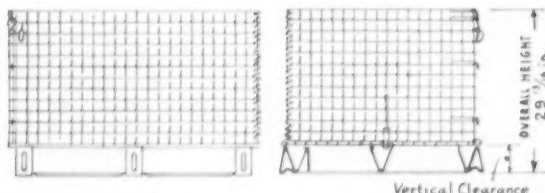
Some advantages steel pallets have over wooden types are: They are fire- and vermin-proof, and can be made moisture resistant; they are easily cleaned, and are safe from splinters.

WIRE PALLETS ARE LIGHT AND STURDY

A 40x48-in. wire pallet weighs but 73 lb. One with a 24-in. high container, weighs about 154 lb.

The containers are collapsible, which means minimum storage space when not in use. They can be assembled quickly. The entire container can be locked at one point, thus removing the possibility of pilferage.

The fact that the wire used in their construction can be finished in several ways—galvanized, baked aluminum, and yellow or red oxide—has meant their adaptation to carrying products in a wide variety of industries. Examples are meat products, plastics, refractory products, small and machine parts, yarns and spools, and for handling and shipping parcel post packages. They are particularly useful for a company's inter-plant shipments by truck. They can be caster mounted for mobility.



SIDE ELEVATION
END VIEW
A WIRE PALLET AND CONTAINER

SKIDS AND PALLETS COMPARED

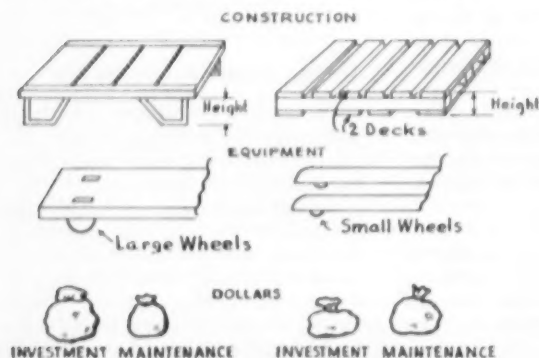
Like all systems of handling, the skid and pallet methods have their own field of activity. A comparison of certain features of both systems will point up the particular advantages of each. The following remarks are not intended to be exhaustive on the subject. An analysis, taking into account many factors, determines which method is best for a given situation.

The outstanding feature of the pallet system is tierability without means of dunnage, etc. This is due to the pallet's two-deck construction.

Normally, pallets are lower than skids, which means better use of cubic space.

In general, metal-bound pallets cost more per unit than wooden varieties, but they stand up longer and require less maintenance expense.

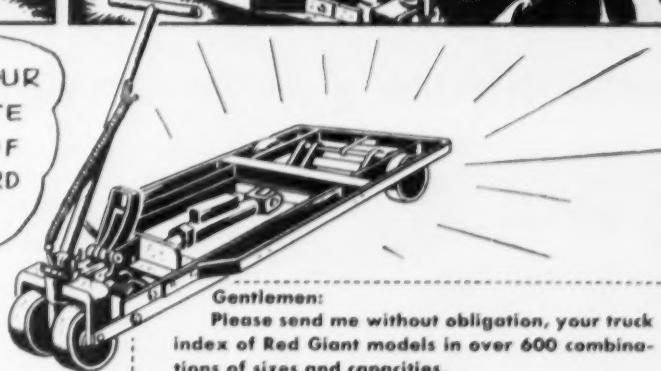
Finally, skids are handled by platform or fork equipment; pallets by forks only. The wheels of platform machines are larger in diameter than those of fork-equipped machines—an advantage in manual handling operations.



Why Jim Davis Picked RED GIANT HAND LIFT TRUCKS



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MODELS.



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Circle No. 15 on Card, Facing Page 49, for more information

EXIDE-IRONCLAD BATTERIES



Greater effective plate area boosts power for peak loads



BATTERY FOR POWERED HAND TRUCK, Model TH. Fits snugly into space provided on truck. Has tubular construction of positive plates, Silverium grids, "Permanized" negative plates, extra heavy connectors and all other Exide-Ironclad advantages that mean power to spare in heavy duty applications. Write for Bulletin S161.



According to general principles of storage battery engineering, power reserve is governed by positive plate area. In the Exide-Ironclad greater effective plate area is achieved without increasing plate size. Here's how:

In the Exide-Ironclad positive plate, active material is held captive in tubes of slotted polyethylene. These tubes are arranged in a tight row with electrical connections only at the top. The actual surface of the plate is the combined semicircular sides of these tubes—the total surface area being roughly one-third more than the projected dimensions of the plate.

In use, this unique design feature means that more active material is exposed to electrolyte for a given size battery. It means the battery can provide power to spare for peak loads as well as a dependable source of continuous power.

Only Exide-Ironclad Batteries have this advantage. Be sure to specify them when you order—for either new equipment or for replacement. Exide Industrial Division, The Electric Storage Battery Company, Phila. 2, Pa.

Exide®

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DISTRIBUTION AGE

... Highway Program

(Continued from Page 27)

mon carriers of passengers (urban transit). Exemption from the camelback tax is also proposed for non-highway vehicles.

"Anti-Diversion" is proposed in the bill. A trust fund would be set up in the U.S. Treasury (similar to present Social Security handling) into which would be put all revenue from the taxes asked for in HR 9075 plus all motor fuel taxes beginning July 1, 1956. To this would be added on July 1, 1957, the present 5¢ per lb on tires and tubes. This fund would be earmarked solely for federal-aid highway construction.

Tax Impact

The Truck-Trailer Manufacturers Association has made the following estimates of how the tax increases would affect various types of vehicles (not including the proposed truck weight tax):

1. Passenger car annual tax increase—\$7.92.
2. Two-axle, six-tire van truck, 19,000 lb gvw—\$64.32.
3. Three-axle, 10-tire tractor and semi-trailer combination, 40,000 lb gvw—\$138.11.
4. Five-axle, diesel-powered tractor and semi-trailer combination, 64,000 lb gvw—\$330.69.

Recapping was not included in the above estimates. The association estimates that a full cap on a 7.10x15 tire would be taxed 30¢, a top cap on a 8.25x20 tire would be taxed 50¢ and a top cap on a 10.00x20 tire would be taxed 75¢.

Opposition

Opposition to across-the-board increases in excise taxes without a special soak-the-heavy-truck tax, as originally proposed in HR 9075, was voiced by the Association of American Railroads and the American Automobile Association during Committee hearings.

The Association of American Railroads opposed the across-the-board tax increases of the Boggs bill. It asked for (1) diesel fuel tax at least 50 per cent higher than the rate on gasoline, (2) an ex-

clusive tax on large tires (9.00x20 and larger) used by heavy trucks and buses and an equivalent tax on camelback. In lieu of these latter taxes, AAR suggested graduated federal license fees for vehicles of 20,000 lb gvw and over.

AAA's highway program outlines a 15-year plan split into three five-year phases. In the first five-year period, federal expenditure would be \$5 billion for the Interstate System and \$3.875 billion (plus the \$175 million already authorized for 1957 for a \$4.05 billion total) for other federal-aid highways.

The association's tax package is similar to HR 7474, the highway bill that was defeated in the closing days of the 1955 Congress. It asks for higher tax rates on heavier vehicles.

Administration Support

The big boost for this year's highway building proposals came with Administration approval of pay-as-you-go financing. This is a reversal of the President's original proposal and the Administra-

tion's position last year when bond issue financing was endorsed.

In hearings before the House Ways and Means Committee in February, Secretary Humphrey officially endorsed pay-as-you-go financing for the highway building program outlined in HR 8836.

Secretary Weeks appeared before the House Public Works Committee early last month, said the Fallon bill (HR 8836) "accomplishes the principle objectives of the President's program for completion of the National System of Interstate highways" but added that it should be done in 10 years rather than the 13 called for in the bill.

AASHO Support

Also appearing before the House Public Works Committee at the same time was the American Association of State Highway Officials. AASHO noted that it was "very pleased" with HR 8836 in respect to the proposed building program, but said it believes three provisions of the bill "would be encroaching upon state sovereignty." These, said AASHO, are utility reimbursement, labor relationship and requirements, and vehicle size and weight restrictions. •

(Resume Reading on Page 28)

First Mobilvan Freight Container Shipment



The first shipments in light-weight steel freight containers that can be carried on truck trailers or railway flat cars left Chicago for New York via the Pennsylvania Railroad early last month. The three containers, owned by Spector Freight System, Inc., were loaded on a standard flat car. The 8- x 17-ft containers were introduced last year by Clark Equipment Co., and are being built by Fruehauf Trailer Co.

... Unitized Handling

(Continued from Page 29)

and the necessity of getting them back after delivery, British Railways now make no conveyance charge on owner's pallets on which goods are loaded or for the return of pallets to the sender. This concession was made to encourage pallet handling.

Under this arrangement the trader declares the total weight of the consignment including the weight of the pallets, and the chargeable weight of the consignment is computed by deducting from the gross weight of the load, the actual weight of the pallets; such allowance not to exceed 56 lb for sizes up to 40 x 40 in., and 84 lb for sizes in excess.

Where firms are despatching full load traffic, investigations are being made by the railways to see whether palleting can be introduced.

Aside from examining the opportunities for using the fork-lift truck/pallet system for dealing with general merchandise handled, the railways also are installing other handling methods and equipment for goods unsuitable for palletisation.

For instance, an electric mobile crane has been developed to handle heavy articles in storage sheds. Its jib is so designed that it will enter a covered freight car or lift over the sides of open wagons.

Also in use for the rapid loading of boxcars, are power-operated conveyors which run between the lines of cars and which are fed by electric elevating platform trucks used in conjunction with stillages.

At the Lawley Street Goods Depot, Birmingham, which is one of BR's most up-to-date freight sheds, traffic is off-loaded from cars at one end on to power operated conveyors and carried to the sorting area. At this point it is sorted into one of eight final sorting sections for delivery in the Birmingham area or for reforwarding by rail. Traversers lift and carry trays of traffic to the different sections of the sorting centre as required.

Considerable progress also is being made in the palletisation of

traffic carried by the British Road Services, though the problems are different from those encountered by the railways. Development is limited by such factors as the varying types of depots, inadequate operating space, and the nature of the fleet of vehicles used for the trunk haulage of parcels traffic, which consists almost entirely of covered box vans and trailers and containers.

Palletised freight handled by BRS falls into two categories: General haulage traffic, or "smalls" and parcels traffic. For the through full load general haulage traffic, BRS give every assistance to customers in arranging their palletised transits.

For example, in 1951 it was decided that the side raves on new vehicles should be one and one-half in. high so that pallets complying with the British Standard could be loaded by fork trucks without difficulty.

In addition to cooperating with advice in respect to pallet sizes, BRS also are prepared to conduct experiments with traders in pallet transportation. Unlike British Railways, the Road Services do not carry pallets free, as loads are limited by law, and this would result in loss of revenue. However, there are cases when palletisation may enable BRS to achieve better vehicle utilisation and in such cases they are prepared to make special arrangements for the carriage and/or return journey of empty pallets.

So far as parcels and "smalls" traffic is concerned BRS have been experimenting continuously in a number of directions. At the transfer depots the main problem encountered in making up unit loads on pallets or stillages has been to organize the sorting into appropriate pallets at, or near vehicle tailboards on suitable depot platforms.

At one depot, the amount of traffic had outgrown the platform to such an extent that even before fork truck and pallets were tried, some sorting was being done at ground level away from the plat-

form. When fork trucks and pallets were made available, the possibilities of working at ground level were realised, and it is intended to try this system out on a large scale at a new parcels depot to be built.

At this depot there will be only a small platform and this will be used for the initial loading of unpalletised traffic. For such unloading an experimental boom with moving belt has been designed which can be extended into the vehicle from edge of platform.

Palletised Handling

Experiments also have been made in the handling of palletised traffic. Two types of moving floor vehicles have been tried and others examined. An articulated trailer now in use is loaded with pallets over the sides and then converted into a covered vehicle by pulling down roller shutter type tarpaulin sheets from a fixed roof. A number of Dutch folding truck covers also have been obtained for experimental use.

Because the inevitable loss of load space resulting from the carriage of the pallets has always to be borne in mind, BRS have experimented almost entirely with the use of pallets for short runs which lend themselves to better vehicle utilisation to compensate for poorer loadability.

Apart from standard size pallets of 40 x 32, 40 x 36, 40 x 40, 40 x 48, 40 x 60, and 48 x 32 in., BRS use two other types. One is the gondola 40 x 60 in., which cradles the load slightly toward the center, and having two-way entry for pallet trucks and four-way entry for fork trucks, now is made of steel sheet platform with tubular steel underframe. The other is a 60 x 36 in. wooden base pallet with 66 in. high cage-type metal superstructure, two of which can be accommodated side by side in the width of a BRS articulated vehicle of the type used for inter-depot parcels transfer work.

Experiments also are being carried out with the use of a stackable box-type pallet with tubular steel frame and wire mesh sides, and a lidded, lockable, collapsible wire mesh cage pallet for carrying traffic vulnerable to pilfering. •

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... Industrial Trackage

(Continued from Page 39)

single-end or a double-end track wrench is used, and the fit is determined by the load on the hand wrench. Spring washers must be used for a finger fit, but may or may not be used for a wrench fit.

Special Rail Devices

There are a number of devices used in trackage work to supplement the holding force of the ties, tie plates, rail joints, spikes and bolts. One of these is the rail anchor or anti-creeper. The primary function of this device is to hold the rail in a fixed position with respect to the tie by checking the longitudinal movement of the rails under traffic. This movement is known as creepage and is the origin of the name anti-creeper.

Rail creepage causes slewed ties, uneven surface and gage, and disalignment of switches and switchgear. Among the first evidences of rail creepage are the closing of expansion joints in the direction of creeping and the opening of joints at the starting point of the creepage. Marks begin to show on the rail flanges where spike heads scrape the rails as they slide. Joint ties are slewed and crowded ahead, forcing the ballast ahead of them and leaving crevices in the ballast behind. There is a danger of track kinking where the tendency to creep is severe.

The solution to the problem of rail creepage is to drive the rails back to original positions and apply a sufficient number of rail anchors.

Generally, anchors are of the one-, or two-part type, and attached to the base of the rail to bear against the side of the tie or tie plate, or both.

A well-designed rail anchor should have few parts, be easily installed, adjusted and removed so that it can be reused many times. It should provide ample bearing surface against the tie so that undue cutting and wearing is eliminated. Some types are installed with a special, but simple

tool. Others can be installed or removed with a standard spike maul or sledge.

Another important device used to maintain proper track alignment is the gage rod. Track gage is defined as the distance between the heads of the rails, measured at a point $\frac{5}{8}$ in. below the top of the rail. Incorrect gage permits lateral thrust by the rolling stock with resultant unequal wear on the rail. This leads to poor riding qualities and severe wear of the various component parts of the track structure.

The standard gage is 4 ft. 8½ in., but this figure sometimes must be increased on sharp curves. The primary function of the gage rod is to anchor each rail to the other, thereby maintaining the gage. The detailed design of this equipment includes a means of adjusting the rod for quick installation, establishment of the exact gage desired, and the necessary draw-up for wear.

Rail and Joint Maintenance

Essentially, rail and rail joint maintenance consists of the maintenance of component parts. Clean ballast, good track drainage, sound and well-tamped ties, large tie

plates, adequate rail anchors, joint and splice bars, gage rods, and properly installed and fitted spikes and bolts. Therefore, a well-organized maintenance program will include the regular inspection of each track structure component.

Improper anchorage of rails aggravates conditions known as rail battering, end overflow and chipping. Rail batter is the mashing down of the end of the rail under the hammer blows of traffic. End overflow is the projection of metal at the top of the gage side of the rail head into the gap between the rail ends. Chipping is actual damage to the rail surface.

Loose joints, unsound ties, improperly spaced ties, loose rail anchors which allow rail to move, wide or tight gage, all cause unnecessary rail wear.

Rail joints should be replaced before they become so worn as to cause heavy batter at the rail ends.

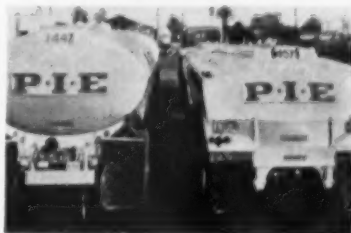
Loose bolts tend to wear out the component parts of the joint and increase rail-end batter. They allow the bolt threads to become damaged by being battered against the web of the bars so that it is impossible to tighten the nut. Loose bolts also increase the wear of the joint bars and rail ends. If nuts are turned too tight, traffic may strain the bolts beyond the elastic limits. Lack of uniform tightness will tend to cause a concentration or bunching of the space allowed for rail expansion.

Rails are handled and repositioned by various hand tools including rail tongs, track jacks, lining bars and track liners. The principal uses of the track jack are for raising the track in the course of surfacing, improving the grade or applying additional ballast, sustaining the track while ties are being replaced, aligning track where throwing or moving the rail cannot be done with lining bars or track liners, and respacing cross ties.

Lining bars are used when detailed track adjustments are necessary. Three types of working ends are used: pinch, wedge and diamond; each having specific advantages. •

(Resume Reading on Page 40)

Frameless Tank Truck



A new frameless self-propelled tank truck and trailer has been introduced by Pacific Intermountain Express Co. and Fruehauf Trailer Co. The new tank trailer employs no frame or mounting sill, but power package, wheels and axles are built within the tank itself. This design saves considerable weight and makes the tank and trailer stronger than any previously constructed. Its new design has dropped the center of gravity and made the tank 8 in. wider than it is high. Photograph shows comparison between conventional tank truck and new model.

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Maximum Load

(Continued from Page 35)

dem equipment when, in many cases, a single axle tractor will handle the job.

Proper load control instrumentation makes it possible for operators with standard trailers to realize a higher average payload than operators using high cube trailers without proper control.

Within a very few years I predict that built-in electronic load control equipment will be as much a part of the trailer as the tires.

It now is possible to equip trailers with the necessary load control devices and at reasonable cost, compared with the profit potential. These are not mere overload gages, but are actual weighing tools that indicate the load through the entire range from empty to full. With the equipment available it is possible to set up a complete master load control system.

When a trailer is backed into loading position at the dock, it may be plugged into the master system and the load on all four corners of the trailer will be under constant surveillance. The superintendent's office may be equipped with a large layout board showing each of the loading positions at the dock. For each position there are five lights. One light shows that the position has a trailer in it, the other four are for the corners of each trailer and light up whenever that portion of the trailer is overloaded. A set of four lights also may be set up at each loading position, again corresponding to the trailer corners.

When the trailer is loaded and ready for departure, the dock supervisor can press a close-out button at the trailer point. This will indicate completed loading on the master control system. If desired, this action may be used to punch a card showing the loaded weight of the trailer.

By using existing punched card systems, a totalized report may be tabulated automatically, typed and ready within one hour after the dock is cleared. •

(Resume Reading on Page 36)

DISTRIBUTION AGE

...Year Ahead

(Continued from Page 37)

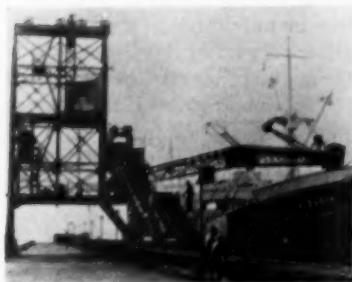
jection to the principle that fair competition is desirable and that it should be given greater freedom to operate. The only essential ground rules are those necessary to keep the competition fair. Inherent advantages of one kind or another are present in all forms of modern transportation and, given the chance, will emerge. If any are outmoded they will perish, and, if they do, no tears need be shed.

With the vast network of rail and highway lines criss-crossing the nation and serving every village and hamlet, supplemented by a great air network and a mighty system of inland waterways, we have little to fear from monopoly. Self-destruction or destruction of each other by resorting to "law of the jungle" rate wars seems to me to be much more of a horrible nightmare than a reality. Sound rules which enforce fair competition will keep the competition clean and assure that in each encounter the better team will win.

As to the present competitors, I see none so weak as to be unable to meet its adversaries, and none so strong as to overcome all opposition. Changes will occur and they will improve the situation—not harm it. •

(Resume Reading on Page 38)

2,000 Ton an Hour



More than two miles of rubber-belt road will carry at least 1 million ton of iron ore dockside this year at the Marcona Mine, near San Juan Bay, Peru. The final flight of belting is shown here. It is a 42-in. wide B. F. Goodrich belt, which travels at 300 fpm. It carries 2,000 ton an hour along a new 1,100-ft steel and cement dock, up a 14-deg slope to the traveling loading tower

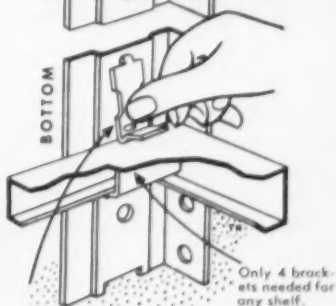
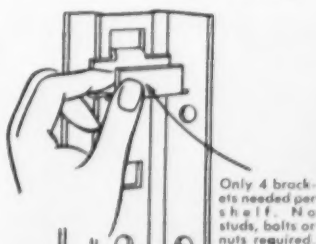
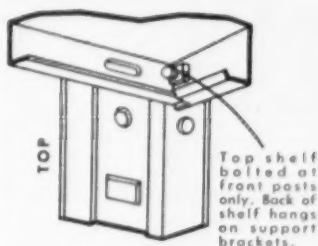
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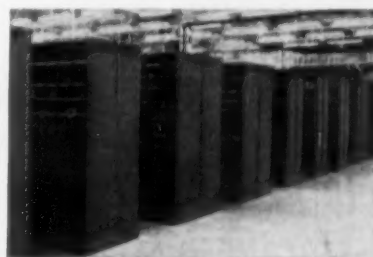
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Flexibility is demonstrated in this partial view of the large Borroughs shelving installation at the Ford Division of the Ford Motor Co., Assembly Plant No. 2, Louisville, Kentucky.



Efficient shelving arrangement for stock storage is shown in this Borroughs installation at the S. S. Kresge Co. retail store, Midland, Michigan.

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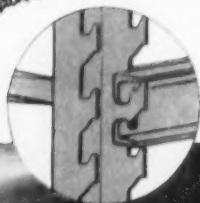
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Pallet Racks

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✓ **Eliminated
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for work
in process
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300%**

In this installation RACK Adjustable Pallet Racks made possible a major increase in output through providing quick availability of parts. Savings in handling costs and in storage space were substantial. Overall efficiency of Department increased considerably with introduction of "Good Housekeeping" Policy, and with flexibility of the RACK Material Handling Equipment.

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... Handling

(Continued from Page 41)

production control people, who are responsible for the physical handling and movement of materials. Materials handling engineering is related to every department of company business.

One distinctive break has been made in our materials handling engineering organization which has proved successful.

At the beginning of this expansion program, a new department was organized to coordinate the planning of in-process handling for all programs under consideration. This department was called the Automation Department.

Automation Function

At Ford, automation is defined as the automatic handling of parts between progressive production processes.

The automation function is presently assigned to the Plant Layout and Industrial Process Equipment Department. Engineering of other materials handling equipment and methods has been assigned to the Materials Handling Engineering Department. Both of these departments are components of the Central Staff Manufacturing Engineering Office.

In adhering to this organizational structure, concentration is maintained by one department on materials handling as applied to the manufacturing process. Another department is responsible for engineering all other handling.

The same engineering planning that goes into automatic handling between production machines is carried into the other areas of materials handling. Mechanized handling does not cease at the production line. It extends the production line through storage, shipping, to use point. There must be a definite materials handling plan for each plant to facilitate the overall flow of materials, and there must be integration of plans between plants so that maximum company benefits are obtained.

Process Card System

Ford materials handling engineers developed a Process Card which includes a multitude of items. The card gives a registered picture of the handling factors involved in part processing. After determination of the methods to be used, every move of each part is recorded on process cards which not only provide a uniform recording medium, but also provide a selectivity feature which greatly aids later studies, in that certain types of parts, types of handling, or types of facilities employed can be quickly segregated for re-survey at any time.

The information on these cards is summarized on other standard forms which reflect times, volumes, frequencies, and cycles, consequently permitting a good analysis of equipment and space utilization and efficiency. These forms serve as the basis for cost study data to support requests for project appropriations.

The question of selection of equipment is simplified by standards which have been set up to govern procurement. A Materials Handling Standards Program is a forerunner to integrated mechanized handling. The standards are the base upon which the mechanization program is built.

Integrated Planning

I can portray this integrated planning, leading to mechanized handling, by citing a few examples.

Ford standardized three types of durable containers, and then built its industrial truck standards on the container maximums. It was found that fork trucks of three capacities would accommodate desired container loads for practically all operations. Approximately 32 standard roller-equipped loading and unloading docks were developed and installed in plants in the Greater Detroit area. Along with this, roller-conveyors were installed to 30 van and nine flat highway trailers. The fork trucks load the standard containers on stations as

(Please Turn Page)

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The conveyor with the belt that
Can't Run Off Center

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Hour-after-hour, this conveyor will carry boxes, cartons, bags—any packaged materials—into, through and out of your plant, factory or warehouse with less worry or attention than you give the family cat. Easily portable because it's made of aluminum.

HEAVY LOADS, TOO . . . Moreover the new Ve-Be-Veyor is no sissy when it comes to doing the work. Actual performance tests, under hard, practical working conditions prove that it stands up to punishment—often carries loads heavier than the entire weight of the conveyor, including the motor unit.

FIND OUT FOR YOURSELF . . . Send for Bulletin No. 600 which tells in detail all about the NEW Ve-Be-Veyors made by Farquhar. Or better yet, ask us for a demonstration, without obligation, of course.

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- ☐ Send me Bulletin No. 600 about the Farquhar VE-BE-VEYOR.
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DURABLE resilient rubber Loading-Dock Bumpers absorb the BUMP when truck and dock come together—

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... Handling

(Continued from Preceding Page)

volumes build-up. The release of the load into and out of the trailers can be calculated in seconds.

This integrated program was not fostered without headaches. A case in point—how to control the six million dollars worth of durable containers being shuttled in these interplant movements?

The answer appeared to be central control. Finance, Production Control, and Materials Handling engineering people worked out a joint administration of the program.

The program has been expanded to extend mechanized handling from supplier plants to our own. The supplier formerly used a returnable wood pallet. Ford materials handling engineers suggested the use of standard durable rack pallets which are loaded internally as brakes are produced.

Just as important is the extension of standard equipment to the supplier's plant, leading to increased standardization of in-plant handling, contributing to increased mechanization.

Mechanized Handling

An illustration of complete mechanized handling brought about by the combined talents of automation and materials handling engineers is reflected in engine manufacturing.

In planning a new Engine Plant, despite the fact that cylinder blocks weigh close to 250 pounds, it was possible to conceive and bring to life practically 100 per cent automatic handling.

The blocks begin their travel through the machining operations when they pass through a huge broach for facing of top and bottom surfaces. With feed rates vastly increased, the new machines have a greater production capacity than their forerunners, which were manually loaded and unloaded. After leaving the broach, blocks enter a network of

—EDITOR'S NOTE: Mr. Davis' remarks were excerpted from a speech recently made at the Wisconsin Industrial Materials Handling and Packaging Conference, Milwaukee, Wis.

automation which carries them through the entire manufacturing process.

Finished cylinder blocks are bolted to hangers on a power and free conveyor for engine assembly. Automatically, the hanger carries the block through the entire assembly, testing of the engine, and finally automatically dispatches it to scheduled shipping locations where it releases its load. The overhead monorail of the power and free conveyor is equipped with switches, permitting individual carriers to be moved from the main assembly line to adjoining free rail systems serving repair, storage, hot test, and other areas.

Equipment Development

Concurrent with this in-process equipment development, our Product Engineering, Traffic, and Materials Handling Engineering activities developed a heavy-duty rack. The rack was very desirable, but there was no way to tie the engines into the rack without damaging them. Materials Handling Engineering asked that a special boss be designed on the engine for the sole purpose of permitting rack tie-down.

The loaded rack is automatically transferred by roller conveyor to a flat bed station where tiering takes place. The tier is picked up by fork truck and placed in a rail car. The car is shipped to our branch assembly plants where the racks are unloaded by fork truck. A multiple handling device removes the engines from the racks and positions them in our standard containers which are then conveyed to reserve storage or line feed areas.

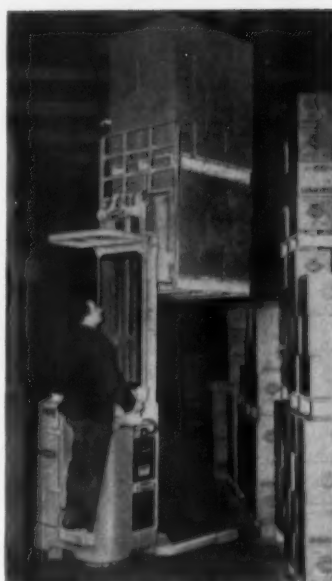
This complete mechanization, resulting in a sizable savings, was brought about by teamwork. It serves well to point up the need for design consideration of handling and shipping factors.

What does the future hold for extending mechanization? There is a lot of room for improvement in equipment of all types, and there is just as much room for education of our people. •

(Resume Reading on Page 42)

MARCH, 1956

Gain Extra Storage



Raymond Truck with load measures almost 7-ft. long, yet compact size plus patented* off-set drive wheel with 200° turning arc enables it to right-angle tier in 6-ft. wide aisle.



Loads may be tiered as high as 152" with the 4,000 lb. capacity, telescopic-type.

In Every Aisle . . .

with

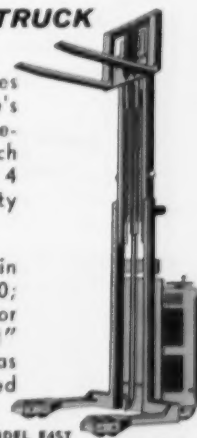
RAYMOND Electric TIERING TRUCK

THESE DAYS it's the warehouse with narrow aisles that makes most efficient use of space. And here's the truck that made 6-ft. aisles possible . . . the time-tested Raymond Tiering Truck. Warehouses which once used counter-weighted trucks have gained 4 to 6 ft. per aisle, increasing total storage capacity as much as 50%.

YOUR WAREHOUSE can make similar savings in space with a Raymond Truck. Available in 2,000; 3,000; and 4,000 lb. capacities. Lightweight for safe operation on low-capacity elevators, floors. 51" maximum free lift for tiering in low-ceiling areas without increasing overall height. May be purchased or leased over 1 to 3-year periods.

*PATENT NO. 2,564,002

MODEL E45T
Telescopic model, 4,000 lb. capacity.



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Please send Bulletin on Raymond Tiering Truck. I am interested in:

- ☐ 2,000 lb. cap.
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☐ Have your representative call.

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COMPANY _____
STREET _____
CITY _____ STATE _____

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Visit Booth No. 1122
Materials Handling Show
Cleveland—June 5-8



It Pays To Check On New **TOLEDO** **Hi-Weigh TRUCK SCALES**

Guard against doubtful truck weights that are so costly in money and good will . . . in your dealings with customers, with vendors, with highway enforcement officials. Check the load on new **TOLEDO Hi-Weigh Truck Scales**! Engineered for today's heavy duty needs . . . choice of two-section, four-section or axle load in full range of models. New design means lower installation costs . . . plus long-life Toledo accuracy and durability. All Toledo Hi-Weigh Scales available with Toledo Printweigh for recording weights on tickets, strips, or sheets. Toledo Scale Company, Toledo 1, Ohio.

Send for Literature
Bulletin 2417



NEW ECONOMY IN INSTALLATION . . . These BIG four-section scales are built to weigh the heaviest and largest highway vehicles to meet needs today . . . and tomorrow. Toledo engineering has integrated lever, weighbridge, and pit design to achieve high strength combined with economical, long-life installation.



TOLEDO®
HEADQUARTERS FOR SCALES

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Air Freight . . .

(Continued from Page 51)

lose sight of the fact that no carrier that participates in the air transport network can live unto itself alone.

Freight Potential

It is thought by some that the freight potential between this country and Europe is not nearly as great as the Board has been led to believe, and that a new transatlantic all-cargo service will divert substantial revenues from existing carriers. This is recognized in the Board's order but is minimized by the assertion that Seaboard & Western will derive its "principal support" from the cargo potential yet to be developed. However, the Board's appraisal of that cargo potential rests on assumptions and speculations of doubtful validity, and to the extent that the anticipated increase in freight tonnage does not materialize, the diversionary effect on the revenues of existing carriers will be correspondingly severe.

Every dollar of freight revenues diverted to the new carrier from presently certificated U. S.-flag airlines will be in part added to the subsidy requirements of the existing carriers.

Competitive Advantages

In considering the question of diversion from the existing certificated carriers, the Board was not unmindful of the other competitive advantages which the already established airlines possess, and which may make any effect of the new service less serious. Thus, they have an established position in the market and established relationships with important shippers who might reasonably be expected to continue to use their services so long as they remain competitive.

These advantages of the certificated carriers necessarily require the new carrier to exercise diligent effort and promotional and developmental ingenuity in the creation of

new markets for its services and in the provision of new service advantages to penetrate current markets.

By the same token, the existing certificated carriers necessarily will be engaged in similar efforts. Out of the interplay of these competitive efforts, the Board expects the transatlantic air freight market to expand rapidly resulting in an economic new service and an increased net yield for the existing certificated carriers.

The Department of Defense announced a position "favoring the establishment and expansion of civil air cargo service."

The two existing carriers contend that the expressed needs of national defense could be met entirely by augmenting their freight services. Both have ambitious plans for increasing such services in the future. Undoubtedly expansion of their all-freight services, if put into effect, would help to satisfy the requirements of the Department of Defense. It was, however, the Board's opinion that certification of an all-freight carrier would more effectively meet the national defense needs.

The Board appears convinced that the service and development of the freight market is of secondary and incidental concern to the combination airlines, as compared to their passenger services. So long as this is the case, it is held that the public interest requires the United States be represented in this important field by a carrier having its primary interest focused on freight development.

No one disagrees with the basic objective of securing a further broadening of the transatlantic freight market while, at the same time, bringing the benefits of lower rates to shippers. Many fear, however, that the certification of another scheduled freight carrier at this time will invite unsound economic results due to duplication of services, precipitous rate reductions, and unjustifiable diversion from existing certificated carriers of revenues needed to reduce subsidy costs to the government. •

(Resume Reading on Page 52)

FREE! MATERIALS HANDLING

news, information, cost cutting
ideas...

*Right off the press
to you!*



Every month you can count on getting all the latest news about ideas and equipment in materials handling direct from the industry's most productive "idea men."

"The Rapid Handler" is a concise, easy-to-read publication, edited and produced by Rapids-Standard Co. It's crammed with pictures and details that show how industry is solving difficult materials handling problems, recovering manpower and man hours for more profitable operations. It's absolutely free, and the coupon above will bring you a copy every month from now on.

Rapistan is known for its practical, time and money-saving ideas and new equipment. Two hundred experienced field men and the most progressive engineering staff in the industry, combine with a vast field communication system to bring you ideas from every corner of the world. This background of know-how makes it possible to solve many materials handling problems with the greatest speed, ease and economy. And with this wide experience, Rapistan men frequently are able to propose solutions to problems which haven't even been recognized. When your concern is conveyor . . . be sure one of the men you talk to is from Rapistan . . . the organization with ideas.

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• Gravity Conveyors • Power Conveyors • R-Keystone Overhead Conveyors

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Scheduled S/R...

(Continued from Page 57)

concentration of delays during the busy period.

Look back and see what has been happening at the terminal. In most cities there has been little activity between 9 or 10 in the morning and 4 o'clock in the afternoon, and most carriers maintain only a skeleton force to receive freight interlined to them by other carriers. Between 4 and 5 o'clock, however, traffic is heavy. All the pick-up trucks come in. The terminal must unload, check, sort, bill and reload the freight so the out-bound trailers can be on the highway between 8 and 10 in the evening. By 10.30 most terminals are quiet and remain so until the in-bound loads must again be worked after midnight.

The purpose in describing this cycle is to point out two potential areas for cost reduction. First, the shipper could schedule his receiv-

ing operations over a longer period, the carrier could spread his deliveries and eliminate delays and that period of inactivity in late morning and early afternoon.

If the shipper could schedule shipping over a longer period, the carrier could make better use of his pick-up and delivery fleet, bring out-bound freight to his dock earlier, and reduce his costly surge.

Time studies show the average driver loses nine per cent of his working day because he has to wait to get into a dock, freight or bills are not ready, or no checker is available. If these delays were eliminated, productivity of the average driver would increase more than 20 per cent.

Dollars and Cents

The average driver makes about 35 stops a day. He incurs no delay

at one dock and a lengthy delay at another. These average out to about a minute and a quarter at each dock. A driver and vehicle cost 7¢ a minute. The pick-up and delivery drivers of this country make 300 million stops annually. Therefore, the delays at receiving and shipping docks cost the carriers \$25 million a year. Of course that cost is passed on to shippers in higher rates.

If the driver spent time in handling freight instead of waiting, his productivity would go up more than 20 per cent. The carriers then would save \$50 million annually.

Following are advantages to the carrier when receiving and shipping are planned and scheduled:

1. The carrier will get more freight back to the terminal early in the day, and avoid that early evening surge. He can move freight faster, with less congestion and a smaller crew.
2. He will have a more even flow of freight from day to day and week to week.
3. His drivers can increase pro-



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you want 'em
... FAST
with a LINK-BELT car spotter**

As quickly as one man can wind two or three turns of rope around the motor-driven capstan, your cars can be spotted easily . . . exactly. Reduces switching and demurrage time . . . releases manpower for other jobs. Get all the facts. Now!

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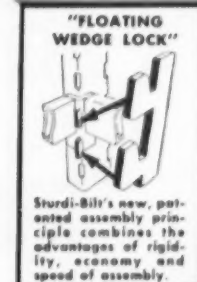
NO SPACE WASTE!

**STEEL
BULK
STORAGE
BINS**

**ADAPT TO ALL SIZES
AND SHAPES OF GOODS**

IN Seconds!

**No Tools, Nuts, Bolts, Erection
Welding or Special Labor!**



BULK BINS make every inch usable storage. They set up fast . . . are easily rearranged . . . simple to expand . . . quickly relocated. Ingenious support brackets provide for instantaneous shelf respacing — makes full utilization of storage space possible as sizes, shapes, or quantities of goods vary.

BULK BINS come in standard sizes to fit your needs — for "tailor made" storage without custom cost!

WRITE TODAY to learn how you can get more versatile storage at less cost!

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Circle No. 27 on Card, Facing Page 49, for more information

ductivity more than 20 per cent because they will not have to wait at customers' docks.

Shipper Advantages

Advantages to the carrier are only half the story. The shipper gains, too. Freight picked up early often can be loaded for earlier departure from the terminal. Freight will move promptly through the terminal and not be delayed by the early evening surge.

The second advantage to the shipper is that he will save on labor. By spreading the work throughout the day he can operate with a smaller crew, he will get better productivity from his men, pay less overtime, and the men will work at a better rate because there is no congestion.

Third, the operation will be better supervised. When fewer trucks are worked simultaneously, supervisors can concentrate better.

Fourth, better checking will result. The flow of freight will be controlled, and tallying will be easier.

Fifth, better use of facilities will be experienced. The capacity

of a dock usually exceeds the requirements, if the operation is scheduled.

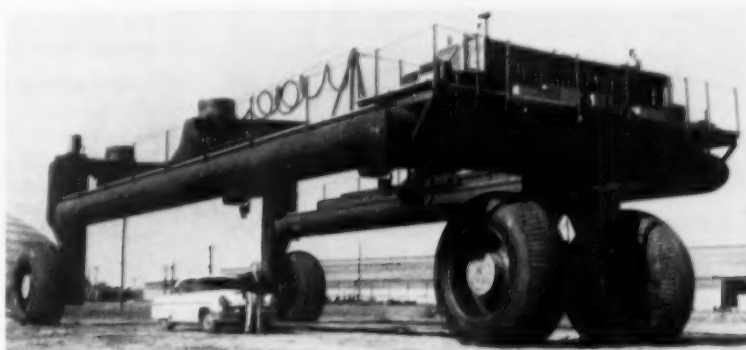
Sixth, scheduling receipts evenly over the month may permit a reduction in inventories.

What the advantages are to shippers come down to this: If you plan and schedule receiving

and shipping, you will be able to get along with fewer men, and you will make better use of your dock and storage space. And, as a by-product of reducing your own costs, you will help the carriers reduce their costs, which should be reflected in lower rates. •

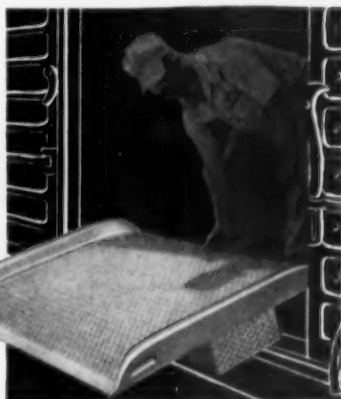
(Resume Reading on Page 58)

Giant Retriever—Army Style



This mechanized giant promises to save the U. S. Army millions of dollars through recovery of stranded landing craft. Built by R. G. LeFournau, Inc., the machine is a highly intricate arrangement of hoists, wheels, and engineered power, which enables it to straddle a 67-ton vessel and literally lift it out of the water. The Retriever can right the stranded craft, transport it to deeper water, or carry it bodily out of the water and onto dry land.

man
putting
down
a
sound
investment!

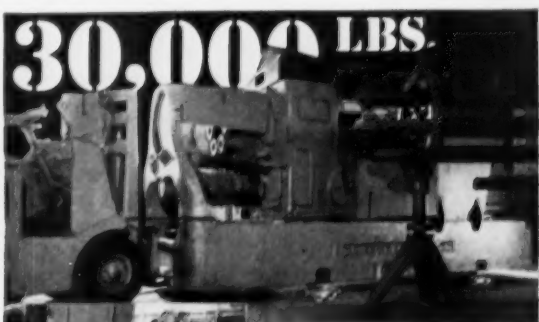


This company has made a wise investment—one which will pay many dividends over a long period of time! The man above is dropping a Magliner magnesium dock board in place on the company's dock. This new Magliner will speed loading . . . get more out of power trucks and other loading equipment . . . keep costs down! Made of light, strong magnesium, it will protect men, loads and equipment against accidents and costly damage. It will also pay other big dividends! Magliners are low in initial cost—and because they provide dependable, long-life service with less maintenance they give you greater economy ALL ways! Find out today, how Magliner dock boards can cut costs in your operation. Write for Bulletin DB-204!



MAGLINE INC. • P. O. BOX 63 • PINCONNING, MICHIGAN
Canadian Factory: Magline of Canada, Ltd., Rexdale, Ontario

Circle No. 28 on Card, Facing Page 49, for more information
MARCH, 1956



One man can jack and bolt these dollies in minutes.



Mighty Mover dolly has two 4-inch roller-bearing cast iron wheels. Top plate swivels 360°. Wt. 40 lbs.

machine moved 55 feet a minute by two men and reduces moving cost 65%

"Mighty Mover" Heavy Duty Dollies provide the safest, fastest, cheapest way to move heavy, bulky machines or equipment. Simple to use . . . save time and labor on any moving job. Equipment always under complete 360° directional control . . . wide roller bearing wheels move easily over any surface. Mighty Mover dollies bolt conveniently to any base. Capacity to 100,000 lbs.

Write for illustrated circular.



MIGHTY MOVER COMPANY

1480 S. Milwaukee St. • Denver 10, Colorado

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Whatever your procedure or equipment, you can save time and money by addressing your multiple shipments with **STEN-C-LABL**s

STEN-C-LABLs may be addressed as by-product of preparing invoice or bill of lading, or they may be addressed in a separate writing. Any type of office equipment can be used including manual or electric typewriters, electric billing or accounting machines, Card-o-type, Teletype or Flexewriter

In addition to the saving of time, addressing errors and mis-shipments are avoided when you use STEN-C-LABLs. Thousands of dollars are being saved by present users.

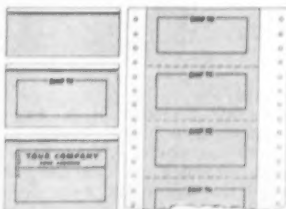
Choose the style that fits into your operation

from these continuous or unit forms available in a large number of different sizes:

Blank STEN-C-LABL for use with gummed labels.

Stock "Ship To" STEN-C-LABL direct to carton—No gummed labels.

Special die-impressed STEN-C-LABL includes your name and address—direct to carton.



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WRITE TODAY for FREE brochure showing detailed operation and actual installations.

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ST. PAUL 14, MINNESOTA

... Washington DA

(Continued from Page 23)

fied by current port conditions. Surcharge elimination, they say, will improve motor carrier and rail rate competition.

TONNAGE IS HEAVIER—Highway haulers of general freight moved 56.5 million tons on intercity runs last year to exceed the 1954 tonnage by 13.7 pct. This marked rise in volume is pinpointed by a new special survey of common carriers, a project of the ATA. Truckers in the Central region made the biggest gain—18.9 per cent—over 1954 and also moved more freight than truck firms in other areas.

RUNWAY CURE NOTED—One obstacle to the development of greater air freight transportation, tight runway layouts, may be overcome in the next 20 to 30 years. As predicted by the Air Transport Assn., most planes of the future will be capable of very short take-offs and landings. These planes could operate from small airports close to cities, thus reducing cargo transfer time.

HAUL IN HIJACKERS—Law enforcement officers netted a sizable bag of hijackers and sneak thieves last year, reports the FBI. More than 1,500 federal convictions were obtained in cases involving violations of laws covering theft from interstate shipment and the transportation of stolen property across state lines.

(Resume Reading on Page 27)

NOW

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Tying Wire

- For the modern packaging trend
- For easy identification
- For added rust resistance

Inland Tying Wire (Round Steel Strapping) may now be had in red, yellow, blue and green, and in 17 or 18 gauge—stocked in 25 pound coils.

The colored coating applied to Inland's high quality tying wire is a tough vinyl—highly rust resistant. Fully meets Parcel Post regulations. Works smoothly in any standard tying machine.

Packaged in handy dispenser carton



The modern trend in Package Reinforcement—Write for full details.

INLAND WIRE PRODUCTS CO.

2965 South Lowe Avenue • Chicago 9, Illinois

Cooperation . . .

(Continued from Page 53)

Engineering Departments

Make transportation studies on new plant and branch house locations.

Advise on sidetrack, lease and other agreements with carriers.

Advise on purchase of materials handling and transportation equipment.

Receiving Departments

Handle loss and damage claims. Expedite and trace urgently needed materials.

Supervise average demurrage agreement operations.

Arrange with carriers for inspection of inbound shipments reported damaged.

Insurance

Handle marine insurance on water shipments.

Discuss and advise on all insurance pertaining to any form of transportation.

Accounting Department

Audit all transportation bills as to proper classification of goods and correct rates and charges for all plants and divisions.

Audit transportation charges on invoices where there is any question regarding the allowance.

Collect transportation overcharge claims.

Advise on general transportation problems.

Arrange credit arrangements with carriers.

Legal Department

Advise on transportation legislation as to its possible effect on company policy and procedure.

Cooperate and assist in legal cases regarding claims or other transportation matters.

Prepare transportation data and handling rate cases before the Public Utilities Commission, the Interstate Commerce Commission and carrier associations.

Assist in the handling of contracts and leases between the railroads and the company.

(Please Turn Page)

Circle No. 32 on Card, Facing Page 49, for more information

A modern truck for modern plants

The **HydroLectric**

with most modern features

- 2 Drive Wheels instead of one
- 2 Braking Systems available instead of one
- 4 Wheel Stability instead of three
- Alloy Gear Transmission instead of chains
- 100% more Steering Ease — Greater Maneuverability
- 50% less Maintenance — Easy Accessibility
- Finger-Tip Control — Greater Safety



Put these modern features to work for you, greater profit at no additional cost.

Platform
Model K

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STUEBING Designed • Engineered • Built

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THERE IS A TRUCK FOR EVERY PURPOSE TO HANDLE ANY KIND OF MATERIAL.

HOW CANDYMAKERS GUARANTEE FRESH CHOCOLATE SHIPMENTS

Chocolates need protection against heat and cold. They require fast transportation service to assure freshness at destination.

That's why candy moves between Chicago and the East Coast in insulated trailers on Nickel Plate's fast, regular Piggyback schedules.

Piggyback gives candy makers 48-hour service between Chicago and East Coast cities, overnight service between Chicago and Cleveland-Buffalo. Other Piggyback advantages: shipper and consignee always know exact location of shipments; door-to-door service; speed; schedule dependability; rail safety.

For more information about the advantages and economies of Nickel Plate High Speed Piggyback service, call our local representative.



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GENERAL FACILITIES	SPECIAL SERVICES
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AMERICAN CHAIN OF WAREHOUSES



NTLS Companies engineer your entire fleet and each individual truck!

Taylor-Made TRUCKS

National TRUCK LEASING SYSTEM

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DON'T BUY—LEASE YOUR TRUCKS. New capital for your old fleet! Save management time. No ownership headaches; no shop and clerical details. Costs known in advance! Flexible... peak or slow periods. TRUE, FULL-SERVICE leasing (everything but the driver) by experienced NTLS companies. Learn more—

ONLY ONE INVOICE

LOOK FOR THIS TRADE-MARK IN THE YELLOW PAGES OF YOUR PHONE BOOK FOR YOUR LOCAL NTLS OPERATING COMPANY, OR WRITE DIRECT TO:

National TRUCK LEASING SYSTEM
Members in principal cities
Dept. D-3, 23 E. Jackson Blvd., Chicago, Ill.

Cooperation—Key . . .

(Continued from Preceding Page)

While many of the cooperative functions listed have been performed by the Stanley traffic department for some years, it has only been within the last decade that they have assumed their present importance under modern competitive business conditions. Before that time, for example, the sales department might have asked for special handling or fast routings as a special favor to a big account. More recently all customers have come to expect such service and it is a normal activity of traffic management.

As another example, the traffic department's interest in packaging, years ago, was chiefly to bring about adequate protection of the products shipped. Now that objective is coupled with low tare considerations, prevention of pilferage, protection from corrosion or other damage particularly in the case of exports, physical size for unitized loads, ease of handling, and storage requirements.

Materials Handling

Today fast and efficient loading of trucks and railroad cars makes materials handling equipment considerations very important. Goods today must be moved as fast as the mechanized manufacturing departments deliver them to the shipping platform. Conversely, if bottlenecks develop at the end of production lines the traffic department

must be in a position to cooperate by making handling equipment recommendations to solve any such interdepartmental problem. Without this kind of cooperation and without application of specialized transportation knowledge, a production department might, for example, choose fixed conveyors whereas pallets and fork-lift trucks would be the real answer.

Of course, the cooperative functions of traffic management entail an obligation and need for broader thinking, broader education and broader industry contacts. Without this we cannot operate. The executives of this company expect the traffic department to be ready with the answers to all problems of moving the company's products.

Comment by Dr. Frederick

The Stanley Works maximizes the effectiveness of its traffic department. Not only are all the technical services performed, but also a wide variety of cooperative activity. Here the traffic manager is not only a master of technical transportation detail, but he also is a member of the top executive team. As such, he coordinates transportation activities with administrative, manufacturing, purchasing, sales, and other departments. •

(Resume Reading on Page 54)

10 Ways to Get More Work Out of Motor Trucks

—that's what our 16-page illustrated Booklet tells you—how to overcome ten costly trucking problems: Idle Time, Delays, Speeding, Accidents, Overtime, Office delays, Poor routing, Driver morale, etc. The little Servis Recorder, installed on your truck, tells you everything the truck does, ALL DAY! Write for this "Ten Ways" booklet —it's free. The Service Recorder Company, 1376 Euclid Avenue, Cleveland 15, Ohio.

The Servis Recorder
Keeps Trucks Busy

Circle No. 33 on Card, Facing Page 49, for more information

Within the



By Leo T. Parker Legal Consultant, Distribution Age

WAREHOUSING

Is it a warehouseman's responsibility to furnish a regular inside night watchman?

According to a leading higher court decision, failure of a warehouseman to furnish a regular inside night-watchman is negligence, which entitles the owner of stored goods destroyed by fire to a favorable judgment.

For illustration, in *W— v. C—*, 206 S.W. (2d) 285, it was shown that a warehouse building was filled with merchandise. It was of brick construction. There were several hand operated fire extinguishers in the warehouse, and the warehouseman employed an outside watchman, but no inside watchman.

One night the watchman made his regular outside inspection at 11:30 pm, and when he made the next regular inspection at 2 am the warehouse building was on fire. The owners of subsequently destroyed stored goods sued the warehouseman for value of the destroyed goods. The higher court held the warehouseman liable, saying:

"The legitimate inference may be drawn that the fire smoldered for quite awhile before it was discovered; and that a competent watchman within the building would have discovered the fire in time, either to have extinguished it himself or to have turned in the alarm in time for its extinguishment by the fire department, and thus prevented the loss."

For comparison, see *W— Warehouse Co. v. L—*, 141 S.W. (2d) 28. Here it was shown that a night watchman was employed regularly to watch and guard inside of a warehouse. However, one Saturday this regular watchman was discharged. The warehouse burned at about two o'clock that morning. The owners of destroyed good sued the warehouseman to recover the value of their merchandise.

During the subsequent trial the warehouseman argued that he had used "ordinary" care to prevent loss of the stored goods because city hydrants were at close intervals outside and inside the warehouse building, and further, the city maintained a fire department.

However, in view of the fact that the warehouseman had failed to provide a regular night watchman, the higher court held the warehouseman liable for full damages and said that his failure to keep a night watchman at this particular time was the proximate cause of the fire loss.

TRANSPORTATION

Recently an official of a motor transport company wrote: "Please give me information on tariff laws. Who is expected to know about them? If the tariffs are on file can the carrier make its contracts with shippers without referring to the tariffs?"

The answer is: If a common carrier keeps on file with proper authorities its tariffs every shipper and the general public is assumed to know about them. Therefore, the shipper is responsible for all provisions of tariffs, exactly the same as if he signed a contract containing the provisions, freight rates, limitations for damage and lost goods, etc. See leading case of *A—*, 33 S.E. (2d) 730; *A—*, 233 U. S. 173; and *M—*, 184, S.E. 414.

What is the difference between excise taxes, property taxes, and use taxes?

A reader wants to know the legal differences between excise and property taxes, and whether a use tax law is valid which specifies a time limit for payment of the tax.

The higher courts hold that there is a material distinction between an

excise and a property tax. An excise tax is imposed upon the performance of an act, engaging in an occupation, or the enjoyment of a privilege. It usually is imposed directly by the state's legislature, without an assessment. A property tax is ordinarily computed upon valuation and levied either where the property is situated or at the owner's domicile. A property tax may be a "use tax," and it is valid unless its provisions are discriminatory.

For illustration, in *H— v. S— Co.*, 4 S.E. (2d) 203, it was shown that a state law, usually known as a property tax, was passed which provides that a specified tax shall be paid by every person within the state who shall receive merchandise "by any means in this state" where the regular sales taxes have not been paid. In other words, this is a "use" tax. The law further provides that the tax must be paid within one hour after the merchandise is received.

In holding the law valid, the court said:

"It is common knowledge that taxes are usually passed on to the consumer; and the evident purpose of this law was to prevent evasion, by placing a tax upon the privilege of use. . ."

What is the law on state, county, and municipality licensing fees?

A reader asked this question: "Can a state, county or city compel a transport company to pay license fees, purely as fees, on vehicles used to collect merchandise to be transported in interstate commerce?"

It is well established law that whatever may be the limits of a state's power to tax property or activities related to interstate commerce, the state may not require a license as a condition precedent to the pursuing of activities in interstate commerce.

(Please Turn Page)

...Within the Law

(Continued from Preceding Page)

This same rule of law is applicable to counties and municipalities.

Therefore, a city ordinance is invalid which requires payment of license fees by owners of motor vehicles for the mere privilege of operating vehicles used directly or indirectly in interstate commerce.

For example, in *People v. H— Motor Lines*, 22 N.E. (2d) 338, a city ordinance was litigated which provides that owners of motor vehicles, used within the city to transport merchandise from place to place, shall pay a stipulated city license fee for each vehicle.

A company which generally transported goods interstate in large motor trucks used smaller motor vehicles to collect merchandise from customers in the city. This merchandise was then transported to the large trucks used in interstate commerce. The city officials contended that the company must pay the regular city license fees for the privilege of using its small trucks to collect the merchandise and transport it to the large interstate commerce trucks. However, the court held otherwise, saying:

"The large trucks travel over regular routes in contrast to the smaller vehicles, which are for 'irregular routes' . . . The ordinance applies to a common carrier who engages in the general business of carrying goods generally for all who desire his services . . . But even if the ordinance were intended to apply to defendant's smaller trucks, which are used solely in connection with interstate transportation, the ordinance could not constitutionally apply to defendant. It is clear that the smaller trucks are instrumentalities of interstate commerce."

Can a city, by ordinance, prohibit operation of motor trucks on certain streets?

Considerable discussion has arisen from time to time over the legal question: Under what circumstances is a city ordinance void which prohibits operation of motor trucks on designated streets?

Last month a higher court answered this question: A city ordinance is unconstitutional and an unreasonable and arbitrary exercise of the police power if the ordinance has no real or substantial relation to the public health, safety, morals or welfare, or is unreasonable or arbitrary and infringes rights secured by the fundamental law of the State.

For example, in *City of Cleveland v. A—*, 124 N.E. (2d) 846, the

testimony showed the facts, as follows: A city enacted an ordinance which provides that no person shall operate a truck with a gross weight in excess of four-ton commercial tractor, trailer or semi-trailer, over Deise Ave "in the night season between the hours of 10 pm and 6 am."

A driver, named A—, was arrested when he was operating a diesel truck, equipped with a muffler, the weight of which was from 12,040 to 13,040 pounds. The truck was being operated by A— at about 11:10 pm at a speed of approximately 10 mph, when he was stopped by a police officer of the city.

During the trial testimony was given that A— was employed by a transport company which was engaged in 24 hour hauling and further that Deise Ave is the only means of ingress and egress to and from the premises of the transport company. In view of this testimony the higher court held the ordinance unconstitutional, unreasonable, arbitrary and discriminatory.

What are rights and liabilities when a carrier's heavy truck damages weak, unsafe bridges?

It is well to realize that the higher courts are in accord with the proposition that truck drivers are bound to read and follow warning signs placed by highway officials at the entrances of bridges.

For illustration, in *S— Co. v. Jackson County*, 193 S. W. (2d) 268, the testimony showed that a loaded truck weighing 35,000 lb was driven upon a bridge which broke in two.

In subsequent litigation the testi-

mony showed that a sign at the entrance of the bridge warned that the maximum load that could be safely transported across the bridge was six ton gross weight (12,000 lb).

Therefore, in view of this testimony the higher court held the carrier liable for full damage to the bridge.

Of course, if the highway officials neglect to place warning signs at the entrance of a bridge or, without knowledge or fault of the truck driver, a sign is removed the liability rests on the highway department and officials.

For illustration, in *Department of Highways v. F—*, 27 So. (2d) 155, the state filed suit against a trucking company and common carrier to recover damages to a bridge which collapsed under the weight of a truck loaded with twenty tons of sugar.

The evidence proved that the bridge was old fashioned and "load limit" signs were placed by the highway officials at each end of the bridge warning a limit or capacity of ten tons. One of these signs was removed by parties unknown and a heavily loaded truck broke through the bridge.

In view of the testimony the higher court refused to hold the trucking company liable for damage to the bridge holding that the highway officials were negligent in failing to replace the "load-limit" signs.

Is a common carrier liable for damage to shipment caused by temperature variations?

According to a leading higher court decision the answer is in the negative.

For illustration, in *J— M— Co. v. G— City Transfer Co.*, 20 N. W. (2d) 651, it was shown that a motor transport company accepted two hundred cases of brandy for transportation. A bill of lading was issued for the shipment in the usual form for shipment of goods in interstate commerce in which carrier acknowledged that the shipment was received in "good order."

When the brandy was delivered to the consignee the corks were out of the bottles, the wax melted and the shipment damaged. Further testimony showed that the shipment had been left on a parking lot all morning in hot sun. Nevertheless the higher court held the carrier not liable saying that where a shipment is delivered to a common carrier under bill of lading which discloses that the shipment consists of merchandise not open to inspection, the carrier is not liable "as an insurer" for damage caused by fermentation or incidental causes because of expansion of the contents due to high temperature.



"Heads or tails?"

Warehouse Briefs

The Quincy Market Cold Storage & Warehouse Co., Boston, Mass., recently opened its new Gloucester Division. The new plant contains some 1,000,000 cu ft of space.

Dixie Warehouse Co., Louisville, Ky., has announced plans for a new 200,000 sq ft public merchandise warehouse, to be owned by the newly incorporated Dixie Warehouse & Cartage Co.

Chester Tidewater Terminal, Chester, Pa., announces that all of the property formerly used for the manufacture of pipe by the parent company, South Chester Tube, is being converted for Terminal purposes. This gives the Terminal Co. over 100 acres of ground, several hundred sq ft of covered storage space, and three and one-half miles of private railroad.

Gross sales for Allied Van Lines, Inc., totaled over \$45 million in 1955; a gain of 13.2 per cent over 1954, while the total tonnage hauled last year was 454,597,900 lb.

Consolidated Freightways, Inc., Portland, Ore., will award from 12 to 17 college scholarships of \$500 each during 1956 to outstanding graduating seniors attending high schools in the area served by the motor freight firm.

Los Angeles-Seattle Motor Express, Inc., through its Canadian affiliated company—United Terminals Ltd.—is nearing completion of its new Suffern Warehouse at Vancouver, B. C.

Yellow Transit Freight Lines, Inc., has established a terminal at 508 Fair St., Marshall, Mich.

The John Mercer Terminal Warehouse Co., announces the completion and occupancy of its new 100,000-sq-ft public merchandise warehouse, in Miami, Fla.

Bekins Van & Storage Co. recently announced the opening of an office in Yuma, Ariz. The storage building and moving van terminal is located at 240 Gila St.

United Warehouse, Inc., has announced that construction has begun in Brook Hollow Industrial District, Dallas, Tex., on a new brick building containing 260,568 cu ft of space.

Biemiller New President Of Maryland Movers

F. Hilton Biemiller, of Jarboe Brothers Storage Warehouses, Inc., Baltimore, has been elected president of the Movers' and Warehousemen's Association of Maryland, Inc.

Others named to office were: Joseph P. Geipe, J. Norman Geipe Van Lines, Inc., vice-president, and Harold Y. Albright, Fidelity Storage Co., Inc., secretary-treasurer.

Warehouse SPOTLIGHT

United Warehouse Co., recently announced the opening of its new No. 1 warehouse, featuring a volume of 2,490,928 cu ft, at 811 East Waterman, Wichita, Kans.

Orville C. Carlson, manager, Lyon Van and Storage, Tacoma, Washington, has been named general chairman of the 33rd Annual Convention of the Washington State Warehousemen's Assn., to be held in Tacoma, May 13, 14 and 15.

Men in the Spotlight

O. L. Doud—appointed vice president, Consolidated Freightways, Portland, Ore.

Curt Bonnyman—(Tuck's Transfer, Moncton, N. B.) elected to the first vice presidency, Canadian Trucking Associations.

Sid Rogers—named vice president in-charge of research, Alford Refrigerated Warehouses, Dallas, Texas.

J. B. Craddock, Jr.—appointed president, Binyon-O'Keefe Storage Co., Fort Worth, Texas, succeeding R. L. Carnrike, who retired. B. S. Singleton—named vp-operations.

ARBT Annual Convention

American Red Ball Transit Co., Indianapolis, Ind., recently held its sixth annual convention at the Lincoln Hotel, Indianapolis. More than 300 affiliated member-movers of the company convened at the Hoosier capitol from all over the United States, to attend the three-day business sessions.

The California Moving & Storage Association is completing plans for the annual convention to be held May 3-5, 1956, at the Fresno Hacienda, Fresno, Calif.

South Pacific NARW Chapter Elects New Officers

The South Pacific Chapter of the NARW, at its recent meeting at Yosemite Park, Calif., elected the following officers: President, Jack Urban, Los Angeles; 1st vp, Wm. Giacomazzi, Jr., San Jose; 2nd vp, W. J. Mills, Los Angeles; and treasurer, Harold Hacke, San Francisco. Regional vice presidents named were: Ralph Parker, Los Angeles, (South); and Louis Arata, San Francisco, (North).

New members of the AWA Merchandise Div. include: Dayton Warehouses, Inc., Dayton, O.; Delaware Valley Warehouse Co., Trenton, N. J.; Merchants Warehouse Co., Philadelphia, Pa.; Boston Tidewater Terminal, Inc., Boston, Mass.; Lincoln Tidewater Terminals, Inc., Kearny, N. J.; Newark Tidewater Terminal, Inc., Kearny, N. J.; Charleston Tidewater Terminals, Inc., Charleston, S. C.; Philadelphia Tidewater Terminal, Inc., Philadelphia, Pa.; Tidewater-Cleveland Storage Corp., Dunkirk, N. Y.; Hullin Terminal Warehouse, Seattle, Wash.; D. H. Overmyer Warehouse Co., Newark, N. J.; and Texas Delivery Warehouse, Inc., Dallas, Texas.

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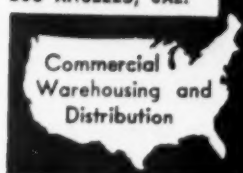


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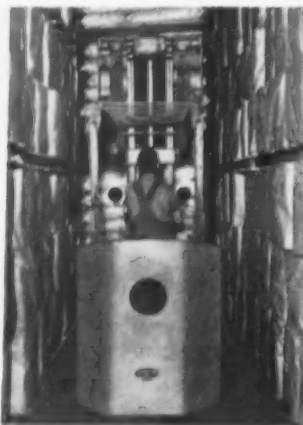
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1955 Directory Issue

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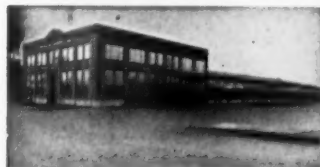
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operating

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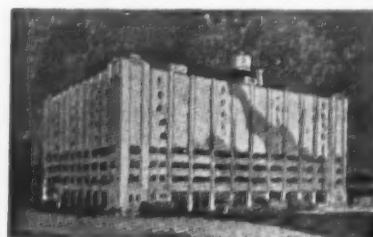
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FROM COAST TO COAST
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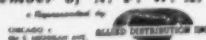
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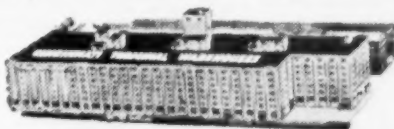
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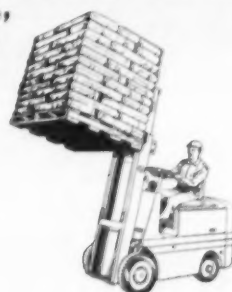
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ICC Recommends . . .

(Continued from Page 31)

subject to suspension, change, or revocation for willful failure to comply with any rule or regulation lawfully promulgated by the Commission, and (2) to make the revocation procedure therein prescribed conform to the procedure provided in section 410 (f) of the act by eliminating the term 'willfully' in the first proviso.

"22. We recommend that section 212 (a) of the act be amended so as to provide that the Commission may, upon reasonable notice, suspend motor carrier operating authorities for failure to comply with insurance regulations issued by it pursuant to section 215 thereof.

"23. We recommend that section 218 (b) be amended so as to provide that the minimum rates, fares, or charges of contract carriers by motor vehicle shall not be lower than the rates, fares, and charges of competing common carriers for the same service, plus reasonable additional charges for any special services, privileges, or facilities furnished by the contract carrier, except upon a showing of special circumstances.

"24. We recommend that section 222 (a) be amended so as to provide more adequate penalties for violations

of the Commission's motor carrier safety and hours of service regulations by increasing the maximum fines and providing for imprisonment in the event death or bodily injury of any person is through such violation.

"25. We recommend that the Commission be given emergency powers with respect to service by motor carriers and water carriers such as it now has with respect to car service by rail carriers.

"26. We recommend amendments adding new provisions which would make a common carrier by motor vehicle and freight forwarders liable for the payment of damages in reparation awards to persons injured by them through violations of the act.

"27. We recommend that part III of the act be amended by adding after section 312 a new section (312a) containing provisions for revocation of water-carrier certificates or permits.

"28. We recommend that section 402 (b) (2) be amended so as to terminate the exemption of freight forwarders of used household goods.

"29. We recommend that section 402 (c) be amended to make the exemption of shippers' associations and shippers' agents applicable only

where the operation is that of a bona fide association or agent as defined in that section.

"30. We recommend that section 409 be amended so as to (1) place the burden of proof on the parties to contracts between freight forwarders and common carriers by motor vehicle subject to part II of the act for the transportation of freight when such contracts are called into question, (2) prohibit such contracts at compensation lower than the motor carrier's tariff rates in all cases where the linehaul transportation is for a total distance of 450 miles or more, and (3) provide penalties for the offer, grant, giving, solicitation, acceptance, or receipt of any rebate, concession, or discrimination resulting from the transportation of property at compensation less than that specified in such contract.

"31. We recommend that section 410 be amended so as to require the obtaining of a certificate of public convenience and necessity as a prerequisite to engaging in service as a freight forwarder.

"32. We recommend that section 411 be amended to provide for the regulation of consolidations, mergers, and acquisitions of control of freight forwarders.

"33. We recommend that section 411 (c) be amended so as to permit a director, officer, employee, or agent

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of a carrier subject to part I, II, or III of the act to become financially interested in a freight forwarder upon a showing that neither public nor private interests will be adversely affected thereby.

"34. We recommend that section 10 of the Clayton Antitrust Act (15 U.S.C., sec. 20) be amended so as to exempt therefrom transactions between parent corporations and their wholly owned subsidiaries.

"35. We recommend that the Federal statutes commonly known as the Transportation of Explosives Act (18 U.S.C., secs. 831-835) be completely rewritten in the light of important developments relating to this subject which have occurred in the 33 years since the last revision of these statutes, and in this connection recommended that they may be amended so as to include specifically radioactive materials and be made to apply to contract and private carriers as well as common carriers.

"36. We recommend that chapter 157, title 28 of the United States Code entitled 'Judiciary and Judicial Procedure,' be amended so as to provide that suits brought to set aside Commission orders be brought against the Commission instead of the United States, with the Government, through the Attorney General, being given the right to intervene, or, if not so amended, that chapter 155 thereof be amended so as to require that in suits

to set aside Commission orders, copies of the complaint be served upon the Secretary of the Commission.

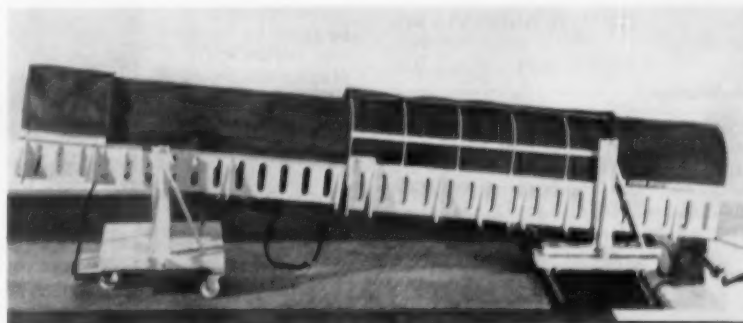
"37. We recommend that the penalty provisions of the Safety Appliance Acts (45 U.S.C., secs. 1-16) be amended so as to provide a fixed penalty of \$500 for each violation.

"38. We recommend that the Locomotive Inspection Act (45 U.S.C., secs. 22-34) be amended so as to eliminate the provisions relating to the appointment of the director and assistant directors of locomotive inspec-

tion by the President, and that these positions be placed in the classified service, and, further, that the detailed requirements related to the duties of inspectors be eliminated. We also recommend the elimination of the oath requirement in inspection reports.

"39. We recommend that the penalty provisions of the Hours of Service Act (45 U.S.C., secs. 61-64) be amended so as to provide a fixed penalty of \$500 for each violation."

(Resume Reading on Page 32)



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Men in the News

(Continued from Page 16)

E. Rigg—named vice president, executive dept.; L. B. Pritchett—appointed vice president in-charge of industrial development; and Frank J. Conrad—new vice president, freight traffic; Rock Island Lines, Chicago, Ill.

William H. Ball—elected treasurer, Baltimore & Ohio Railroad, Baltimore, Md., succeeding W. R. Bixler, who will retire.

—Water

Norman A. Maxon—elected asst. vice president; Joseph S. Blackett—appointed general manager, New York terminal; and Hendryk S. Weeks—named asst. freight traffic manager; Grace Line, New York, N. Y.



Eugene F. Moran—elected vice chairman, The Port of New York authority.

Walter Kruckman—appointed supt. of warehousing, Los Angeles Harbor Dept., Los Angeles, Calif.

Louis P. Struble—elected president and director, Union Barge Line Corp., Pittsburgh, Pa., to succeed Lowell L. French, who died recently.

Materials Handling

Carl O. Hedner—named asst. gen. sales manager of the materials handling div., The Yale & Towne Mfg. Co., Philadelphia, Pa.

Dennis E. Harvey—named vice president and gen. sales mgr., Magnesium Co. of America, E. Chicago, Ind.



B. E. Phillips—named assistant sales manager, Industrial Truck Div., Clark Equipment Co., Battle Creek, Mich.

Joe W. Morgan—promoted to sales manager of the Eastern Tractor Equipment Div., Peoria, Ill., for the Hyster Co.



Bryon W. Saunders, Cornell University—re-elected chairman, College Industry Committee on Materials Handling Education.

Carmine Dragotta—named head of materials handling dept., Bristol-Myers Prod. Div.



Philip C. Cook—appointed sales manager, truck div., The Howe Scale Co., Inc., Rutland, Vt.

Ivan E. Howard—named district manager, Cleveland office, Lamson Mobilift Corp., Portland, Ore.

Robert V. Thoren—appointed sales engineer, Chicago, Ill., area, by John Morrell Mfg. Co.

Packing & Packaging

Geo. E. McMahon—elected exec. vice president, Vulcan Containers, Inc., Bellwood, Ill.

John M. Rae—appointed director of management services, Atlas Plywood Corp., Boston, Mass.

Robert O. Arnold—named board chairman and president, Fulton Bag & Cotton Mills, Atlanta, Ga. Norman E. Elsas—appointed vp. and gen. mgr. Mills Div.; Clarence E. Elsas—now vp. and gen. mgr. Fabrics Div.; and Jason M. Elsas—named vp. and gen. mgr., Bag Div.

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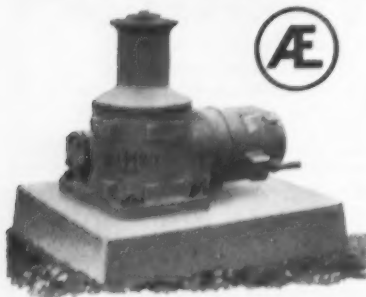
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